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PROGRESSIVE ARCHITECTURE

7

july 1952

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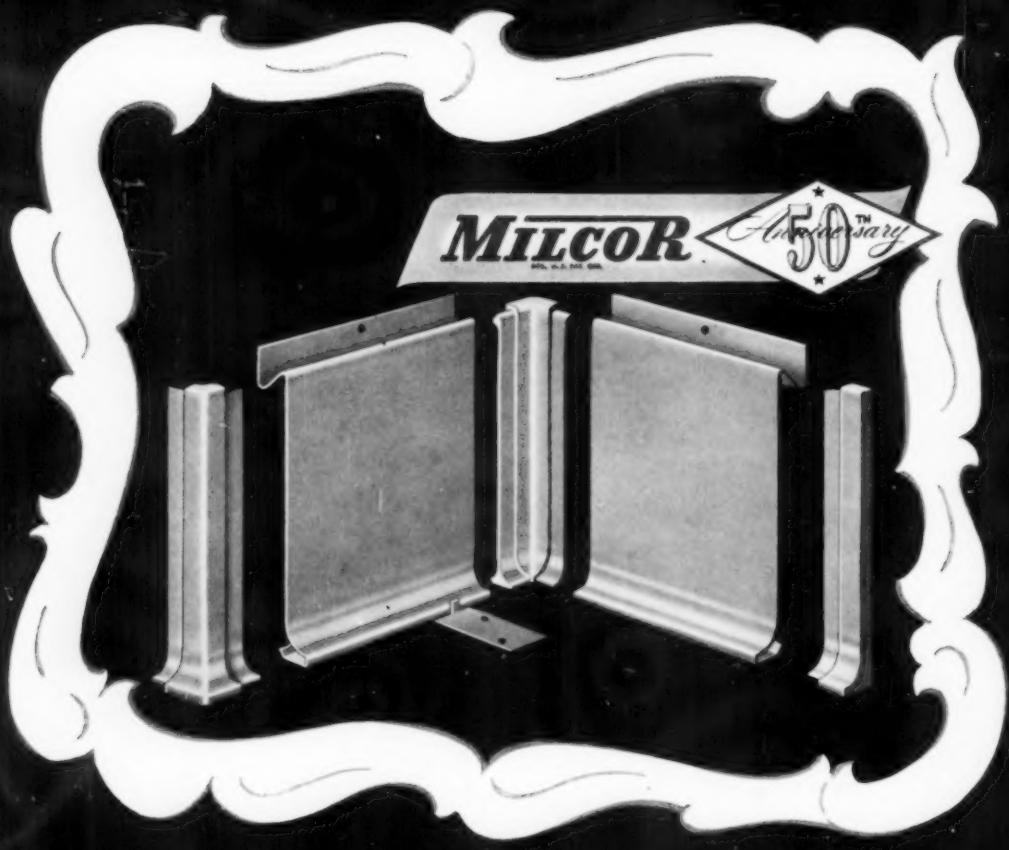

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PROGRESSIVE ARCHITECTURE

July 1952

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Construction figures for both April and May rose to new records for those months -- $2½ billion in April and $2¾ billion in May. Total for the first five months of the year was close to $12 billion -- a rise of 3% over last year's outlay for the same period. Private housing in May was about the same as a year ago; private industrial work was slightly higher. While other private construction dropped, public work -- principally military and defense -- rose more than seasonally.

Dept. of Commerce and Dept. of Labor estimates for the year 1952 now indicate that we should hit a new record total of over $32 billion. These guesses are based on hope that the steel situation will be resolved soon, and that Regulation X will be partially relaxed in the near future. This should allow private residential work to come near last year's total, and permit some pick-up in the last quarter for commercial and religious building.

While military construction may reach almost $2 billion in volume this year, public housing is expected to cost about $700 million (an estimated 50,000 new units, in addition to completion of work started in 1951). House attempts to cut new authorizations to 5000 units will probably be defeated by Senate and administration action.

These construction figures are reflected fairly accurately in present architectural practice. One architect in five, according to A.I.A. survey, has defense work, and is increasing or holding his office staff. Small architect who concentrates on residential design is managing to keep going, and in some instances to keep well going. Medium-sized firms without defense contracts, depending on institutional and commercial work, are having hardest time. Guess figures seem to indicate that they will be better off toward end of year.

Defense housing is still moving slowly. Of 80,915 units "programmed," 64,940 units have been approved but only 16,524 had been started and 3,018 completed as of May 15.

Building type which P/A described in last issue -- the shopping center -- is coming into prominence all over the country. With relaxed commercial controls, applications have been granted and work has been started on many costly projects, from New England to California. Investors see new profitable depository for funds in this apparently sure-fire merchandising trend, but are being warned that careless surveys or thoughtless locating may result in disappointments. In one district, two huge projects are tapping same trade area, competing for same tenants; one seems sure to flop. Architects called on such jobs will be well advised to insist that good economic survey be made before risking their reputations and client's funds.

Eighth annual Pan-American Congress of Architecture will be held in Mexico City in October, and promises to be the best yet of these international meetings which have grown in importance, both because of the serious nature of the discussions and the closer collaboration brought about

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ABP ABC

among colleagues in architecture from the various American nations.

American Hospital Association Convention will be held this year in Philadelphia, September 15 - 18. International Federation of Landscape Architects will meet this month (July 10 - 13) in Stockholm, and 17th International Congress of the History of Art will be in Amsterdam (July 23-31) with Henry-Russell Hitchcock as a speaker.

Kahn & Jacobs' 100 Park Avenue (May 1951 P/A) has been awarded the Fifth Avenue Association's award as the best multistory building erected in Midtown Manhattan in 1950 and 1951.

Mayer & Whittlesey captured two N.Y. Chapter A.I.A. awards this year. With Skidmore, Owings & Merrill, they received the Apartment House Award, and for over-all accomplishment in planning and architecture they were awarded the Chapter's annual Gold Medal.

Trinity University in San Antonio, Texas, announces a course in business and management aspects of home building, leading to B.S. degree. Program will be assisted by Housing Research Foundation of Southwest Research Institute.

Western Reserve University in Cleveland, Ohio, has fused departments of art, architecture and design into one Division of Visual Arts. Reason, according to President Millis, is that an advisory committee survey showed no coherence in teaching in former divided set-up. New dean and division head will be needed. Harvard has found no solution to its problem of replacing both dean and chairman of School of Architecture -- both Gropius and Hudnut will stay another year.

Useful traveling exhibit is being used by Mississippi Glass Co. to demonstrate to architectural groups functional properties of various diffusing, translucent, figured, and wire glass. Model unit shows transmission qualities at any hour for any location.

Cities are allocating more of their budgets for planning, according to statistics released by International City Managers' Association. In 1941 only Chicago and New York appropriated more than $100,000 for their planning commissions while, in 1951, eleven cities spent at least that much. Per capita appropriations were also larger, and planning staffs have increased. While these gains seem small, it is pointed out that demand for city planners is exceeding supply at the moment.

Another professional shortage is occurring in some engineering fields. Advertising Council has agreed to conduct an advertising campaign in the public interest, to encourage high school graduates to accept engineering as a career. Industrial engineering departments are advertising for architecturally trained men to switch over. Estimates indicate need for 40,000 new engineers annually, with 28,000 graduating this year, 19,000 next year, and only about 15,000 in 1954.

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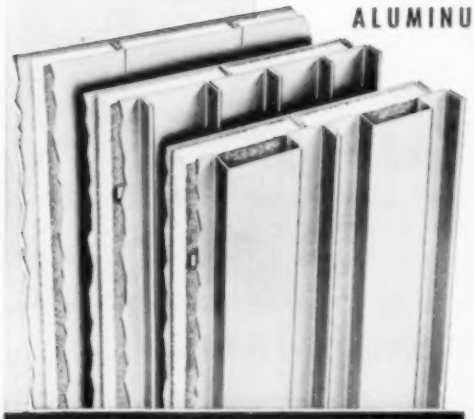

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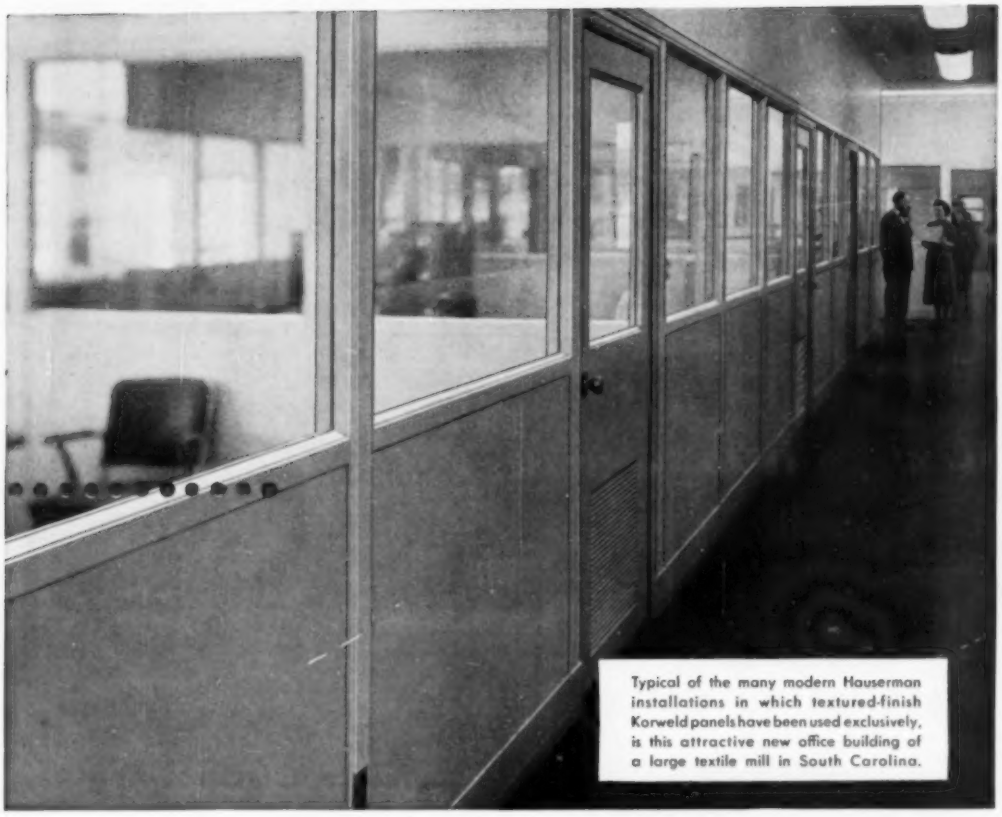

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p/a VIEWS

a better environment

Dear Editor: My attention was attracted, in glancing through the May issue of PROGRESSIVE ARCHITECTURE, to an article by Catherine Bauer entitled "The Low-Income Tenant," which in my opinion expresses the true situation in the Federal Housing and supposedly low-rent housing program.

What I am going to say is based on conditions in the lower south and west rather than on the thickly populated areas of the east. There people have become accustomed to living close together and have for generations tried to live close to their work, inasmuch as the time consumed coming and going, if they lived too far, was a big factor.

In the south, you will find that 95% of the people would prefer to live in individual houses, with their own front yards, own front walks, own gardens and sufficient room between, where the conversation of one family cannot be heard by neighbors when the windows are left open. I will admit that the southern people like less regimentation, less regulations as to their living and thinking and more freedom than those in the north.

The southern man spends more time in his home and enjoys gardening and outdoor amusements and looks forward to his hours off from work when he may participate in or work with his family about the house and garden. He is more of a family man and wants to stay with his children more. The advent of the automobile, which the entire family enjoys, means that he can live within fifteen or twenty miles of the place of employment and yet it will consume only thirty minutes of his time in coming and going twice a day.

Just before reading this article my attention was called to the workers in a sewing room owned and operated by one of the large underwear manufacturers, which is located just across the street from our office. All of the workers in this plant are from the suburban areas, most of whom live on small farms, where they enjoy nice homes, have nice automobiles, dress well and are able to spend all of their time, when they are not actually employed, at home except possibly thirty minutes each day. Nearly every one of these people owns his own home.

Many years ago people drifted to the large cities because of the lack of gainful employment in the rural areas and the lack of conveniences, but today you will find that the country home, in the south especially, has more conveniences than the city one. Besides, these people have sufficient room to park their automobiles; most every member of the family has one of his own. They also have sufficient space for a garden, pets and in some instances fruits and vegetables.

The idea of crowding people into tall apartment buildings has always been wrong, but it was necessary for some to live close to work. Today conditions are different and people are demanding better living facilities, greater freedom and expression, and they have been taught appreciation of the outdoors more. For that reason the areas that are now built up in tall apartments will within a few years be vacated and what few are occupied will be by a very undesirable class of tenants; and the revenue from such areas will have shrunk to such an extent that the interest on the bonds or investment will not justify the maintenance.

Many of our large cities today are undergoing a slum clearance program which has been outlined to them by the federal government and planned by people who have taken the past as a basis for their planning. What we need is facility for financing individual homes in the suburbs, individually planned to suit those who live in them—provided, of course, that the fundamentals of design and safety are not violated to such an extent that they would not be resalable.

I am talking from an experience of thirty-nine years as a planning expert and have studied community and social planning in all parts of the country. One of my achievements has been to induce the textile mills of the south to sell their villages to the employees in order to make them home owners, which in turn the textile industries have found has paid greater dividends in efficiency for their workers. The textile industry today is not building homes for its people, but is moving plants to the people—or to an area where it can draw sufficient employees from a distance of 15 to 20 miles in each direction.

The planning of such areas may not mean as large a lump sum in fees for the architect, but it will mean more planning and a large total income, as each problem will need special study and the fees will fall in a higher bracket.

It is high time that the cities and housing agencies wake up to these new conditions and not try to force people against their will into apartments, but encourage and get money available for building homes out beyond the dense areas, so that they may maintain the population in better environments.

JOHN LEON HOFFMAN
Forsyth, Georgia

to be cherished

Dear Editor: Catherine Bauer's story and your own treatment of the housing subject in your last P/A was absolutely superb. A document to be cherished.

O'NEIL FORD
San Antonio, Texas

applauds Bauer article

Dear Editor: We have just read with great interest the piece by Catherine Bauer on "clients for housing: the low-income tenant" in the May issue of P/A.

Many of us have been increasingly concerned over the trend toward the "behemoths," and we therefore applaud the Bauer article which analyzes the situation so cogently. We are fortunate in Philadelphia that redevelopment funds have been made available to public housing land acquisition, but even so, high-density multi-story building has been resorted to far too often, either because it's the line of least resistance or because the housers are themselves so immersed in work that they no longer understand the requirements of normal people. We are glad that P/A recognizes the need for much more careful architectural study of the row house and hope you will continue to stimulate good row-house design.

DOROTHY S. MONTGOMERY
Managing Director
Philadelphia Housing Ass'n.
Philadelphia, Pa.

first to make sense

Dear Editor: May I repeat a previous note: how much I enjoy P/A. In 15 years of pawing through architectural publications and editorials, yours were the first to make sense to the so-called unlicensed personnel that make up the background of American Architecture today—the designers and draftsmen, senior or junior—in any type of office.

WM. S. PHELPS
Long Beach, Calif.

last professional publication

Dear Editor: Conklin's article on insulation in the current P/A is excellent; likewise with Tomson's and your P.S. regarding registration laws. The illustrations, layout and content of P/A continue to stand far above other architectural magazines. I should say that yours is apparently the *last* "professional" publication left in the field.

S. J. GOLDSTEIN
Washington, D.C.

(Continued on page 10)

VIEWS

(Continued from page 9)

more technical help

Dear Editor: P/A is my favorite—especially in editorial policy—I like its critical attitude and round-robin critiques—also technical details—an architect needs more technical and less "art" help!

EUGENIA LANE
Seattle, Wash.

terrifying ideas

Dear Editor: "In Defence of Magic" contains some terrifying ideas that, thank goodness, inertia will save from realization, but it also says something important. That P/A would publish such an essay is encouraging proof that the influence of the (British) *Architectural Review* is expanding—would that you could at least mention the recent article on the design of pavements in the issue whose cover interchanges walk and wall. Is it too much to hope that some day you may have such an article each month?

Here is one vote for your color and texture change of pace. It is wonderful for plans, sketches, diagrams, and reading—though a little tough on photographs.

ROGER E. BOND
Brookline, Mass.

no design exam

Dear Editor: For some time now I have followed with interest your discussion along with letters to the editor and now Tomson's column, on the examining and licensing of architects. I for one am far from satisfied with the present National Council exams.

I would like to add my name to your small group indicating my belief that design has no place in a state exam for the licensing of architects. Since the beginning of man the question of what is design and art has been discussed, argued and ignored and as we still have not come up with a set of rules on what constitutes good design, how is it possible to expect any group of men to pass on design and how it will effect the public's safety and health? Planning layouts may be something else again. Further, I fail to see what is proved if a candidate for the title of architect would pass or flunk his exam on history of architecture. This has no effect on the public's safety and health and less to recommend it than the design exam. Is there any wonder that under present laws the charge is made that the purpose of these laws is to reduce competition?

I hold numerous strong views regards the licensing of architects and these I have held before and since taking the junior exam myself. The NCARB goes to a lot of trouble to list the accredited architectural schools and sets up an academic standard for these schools; yet it has always seemed to me strange that a graduate from said school has to be reexamined with texts and notes permitted in a curriculum that he has presumably passed at school by exam without benefit of text and notes. There is no question in my mind that a training period be required after graduation, be it two or three years, at which time a sensible exam would question the candidate on his assimilation of knowledge since graduation, qualifying him as an architect.

Under most present state laws the only way you seem to be rewarded after spending a lot of time and money is the dubious right to call yourself an architect. After hanging out your shingle you see in your own back yard

(Continued on page 12)

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VIEWS

(Continued from page 13)

someone calling himself a designer, doing all you are doing with the advantage of little professional standard to prevent his advertising.

Tomson's suggestion of limiting the practice to architects is not only proper but just and similar to other professions. If there is any reason or justification for the licensing law at all, then all should be made to pass it before practicing as an architect or whatever they call themselves.

Some of the state laws fix a price of a building by law above which an architect or his signature is a must. The Connecticut Society of Architects has been fooling with this fallacy for some time and, if passed, I for one fail to see how it is to be enforced outside of cities with building inspectors; even there it is questionable. Also I fail to see how one can justify any set fixed figure above which the public health and safety is protected.

I wish to congratulate P/A for the presentation of the Mexican sketches of Neutra. Far from detracting from the professional quality of your magazine you seem to have your heart set on, these drawings add immensely to my enjoyment of P/A. The old PENCIL POINTS did have a few good points even if not progressive and I for one would like to see more along the same line. WALTER G. DeWITT, JR.
West Redding, Conn.

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wants ideal statute

Dear Editor: The comments by Bernard Tomson on licensing laws in the May issue and others recently, accentuate generally neglected phases of an architect's function. Popular conception of services performed by architects relate merely to planning and supervising buildings from thin air to reality. The schools of architecture stress sciences in their curriculas within that perfunctory prejudgment.

It required considerable practice, in fact, by the writer, to realize the extent an architect should carry his preparation beyond this scope, into the fields of law, engineering, and such sciences as electricity, chemistry, and many others. To be a real architect today really takes in relatively boundless territory, as most of us have learned the hard way.

Now that the first stage of licensing is in effect over most of the United States criticisms come to light of weaknesses and needless variations. There is no valid reason for such a condition. Architecture, so considered, is no different than law, medicine, or any other profession. Regulatory controls should be as similar as "peas."

Representing no one other than himself, the writer advocates employing at least two lawyers known to have had vast experience with such licensing, paying them for pro rata charges against each state's licensing authority. When thus given proceed orders, the lawyers would dissect each existing statute; out of this an ideal statute could be devised, subject to separate acceptance.

Clinton H. Blake, author of many books on architectural law, and Bernard Tomson, similarly versed, are suggested as the two to be assigned aforesaid duty. Both have demonstrated desirable qualities.

However, before going so far as selecting representatives, each state should acknowledge uniformity of statute, a greatly desired improvement over the present jumble. Playboy architects are about as hard to round up as a lot of wild horses. But, when finally herded together, they often show some horse sense.

L. ANDREW DESJARDINS
Trinidad, Colorado

Modern Thinking about Modern Materials

BUILDS HOSPITALS AT 65 TO 75% OF REGIONAL COST

The one-floor quadrangle, around two football-field sized patios, is what Gregson & Ellis, of Atlanta, designed to replace the three-story edifice on the right for psychiatric patients. It is the thoroughly modern, well equipped, new Milledgeville State Hospital costing only $4.95 per sq. ft.

The 1,000-bed building shown below is typical of many institutional structures designed by Gregson & Ellis at a cost $\frac{2}{3}$ to $\frac{3}{4}$ of regional costs, with access to the same labor and building conditions.

Gregson & Ellis designed, to full advantage, the economies inherent in all Robertson materials. They made the most of fast, lightweight dry construction, and knew how to achieve the functional beauty of undisguised materials. The contractor for the job was The A. R. Briggs Construction Co., of Macon, Georgia, who was low bidder at $494,000.

Q-DECK AND Q-FLOOR ceilings are the smooth side of Robertson Roof Deck, white enameled. Insulation and built-up waterproofing have kept the building pleasantly cool in the hottest weather. In winter, the cells of the Roof Deck are used for conveying forced warm air, which emerges near the windows, from holes cut into the steel cells . . . a clever combination of radiant and convection heating.

Privacy is provided for wards by partitions of soundproofed Robertson Q-Floor units. These are located to permit circulation of air, above and below, and to facilitate floor cleaning.

Gregson & Ellis *Architects*

More Detailed Information

is available on this hospital, or other Gregson & Ellis buildings and on the most advantageous use of Robertson materials. Write for complete literature.

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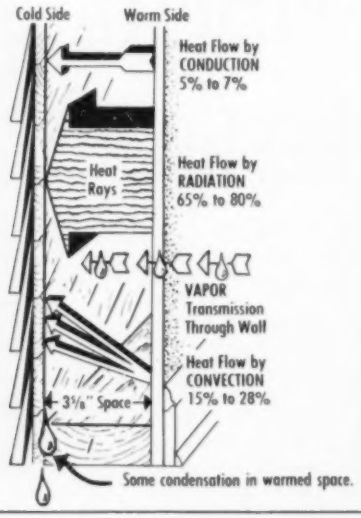
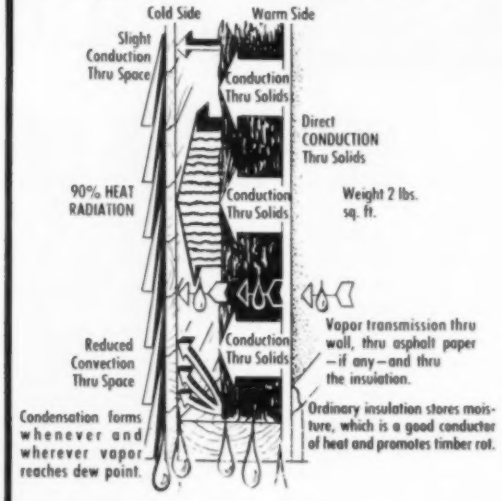
Heat & Vaper Flow Thru Air Spaces In Non-Insulated Wall


Cold Side
Warm Side
Heat Flow by CONDUCTION 5% to 7%
Heat Rays
Heat Flow by RADIATION 65% to 80%
VAPOR Transmission Through Wall
Heat Flow by CONVECTION 15% to 28%
3⅛" Space
Some condensation in warmed space.

Heat & Vapor Flow Thru Wall Space With Ordinary Insulation


Cold Side
Warm Side
Slight Conduction Thru Space
Conduction Thru Solids
Direct CONDUCTION Thru Solids
90% HEAT RADIATION
Conduction Thru Solids
Weight 2 lbs. sq. ft.
Reduced Convection Thru Space
Conduction Thru Solids
Vapor transmission thru wall, thru asphalt paper —if any— and thru the insulation.
Ordinary insulation stores moisture, which is a good conductor of heat and promotes timber rot.
Condensation forms whenever and wherever vapor reaches dew point.

For more efficient cooling and heating systems...

Performance failure by insulation unduly burdens heating and air-conditioning plants. Insulation specification is too often automatic.

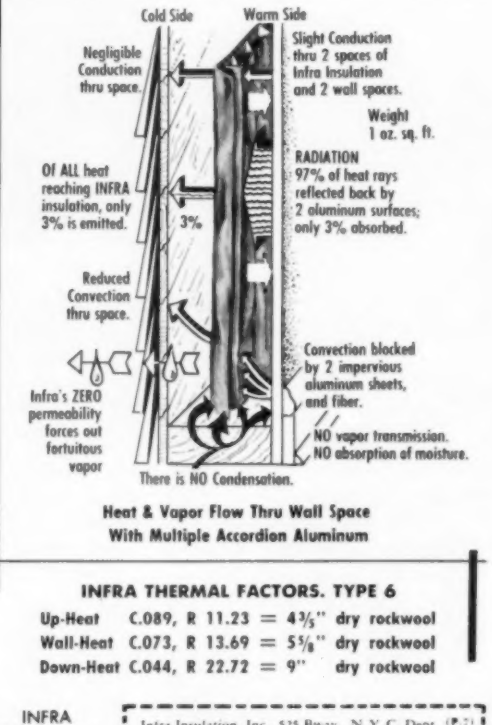
Ordinary insulation also promotes condensation, absorbs and retains moisture. Wet, it is an excellent conductor of heat, and promotes timber rot. Wet insulation tears away at points of fastening, for instance in crawl spaces, leaving the structure uninsulated.

Loose fill insulations settle down, become denser and better conductors of heat. The spaces they leave empty are deprived of the insulation originally planned.

Not all insulations perform with the same efficiency. (Consult the Chart of Thermal Insulation Values in Schwartz's "Simplified Physics of Vapor & Thermal Insulation," sent free on request. The chart shows at a glance *k*, C, R, and U thermal factors, of all insulations, of all thicknesses, their weights, densities, etc.)

Multiple accordion aluminum's rating is especially good, and permanent. Of all heat transferred through structural spaces, 50% to 80% is by Radiation, all but 5% of the rest is Convection. Multiple accordion aluminum sheets throw back 97% of the heat rays which strike them. They block Convection. Their insignificant mass, with multiple air space compartmentation, defeats Conduction.

The permeability of multiple accordion aluminum to water vapor, to cold and warm air and other gases, is zero. Its structure permits no dew-points to be reached on its surfaces or within it. It neither sustains nor retains moisture. It cannot deteriorate, is flame-resistant, repels insects, rodents and mold. Its commercial forms are Infra Insulation, Types 6, 4, and 4 Jr.


Cold Side
Warm Side
Negligible Conduction thru space.
Slight Conduction thru 2 spaces of Infra Insulation and 2 wall spaces.
Weight 1 oz. sq. ft.
RADIATION 97% of heat rays reflected back by 2 aluminum surfaces; only 3% absorbed.
Of ALL heat reaching INFRA insulation, only 3% is emitted.
3%
Reduced Convection thru space.
Convection blocked by 2 impervious aluminum sheets, and fiber.
Infra's ZERO permeability forces out fortuitous vapor
NO vapor transmission. NO absorption of moisture.
There is NO Condensation.

Heat & Vapor Flow Thru Wall Space With Multiple Accordion Aluminum

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Up-Heat	**C.089, R 11.23**	**= 4⅗" dry rockwool**
Wall-Heat	**C.073, R 13.69**	**= 5⅝" dry rockwool**
Down-Heat	**C.044, R 22.72**	**= 9" dry rockwool**

INFRA INSULATION INC.

525 Broadway
New York
N. Y.

Infra Insulation, Inc., 525 Bway., N.Y.C. Dept. (P.7)
Please send FREE "Simplified Physics of Vapor and Thermal Insulation."

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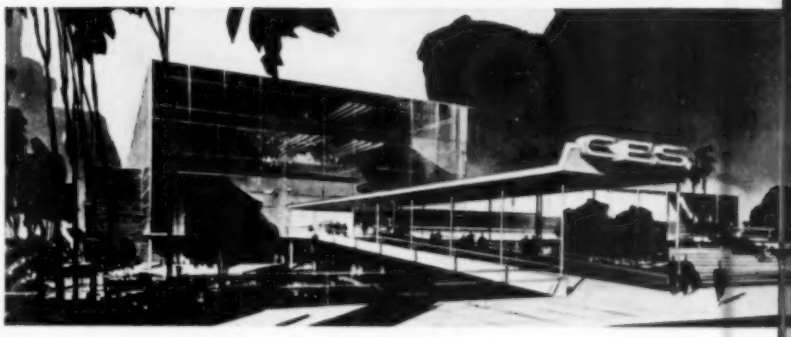
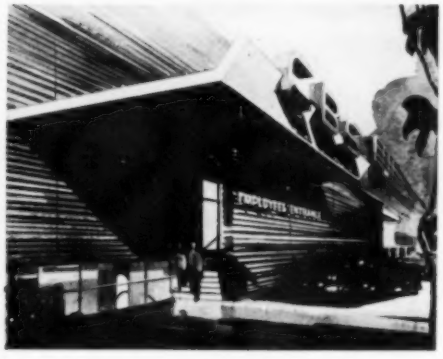
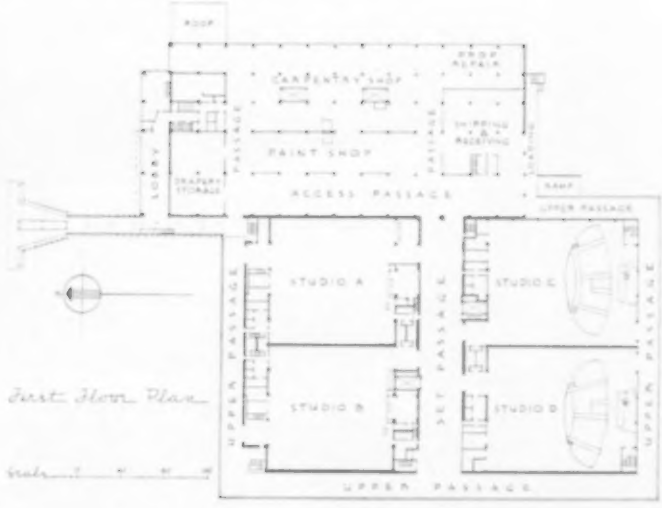
west coast television center



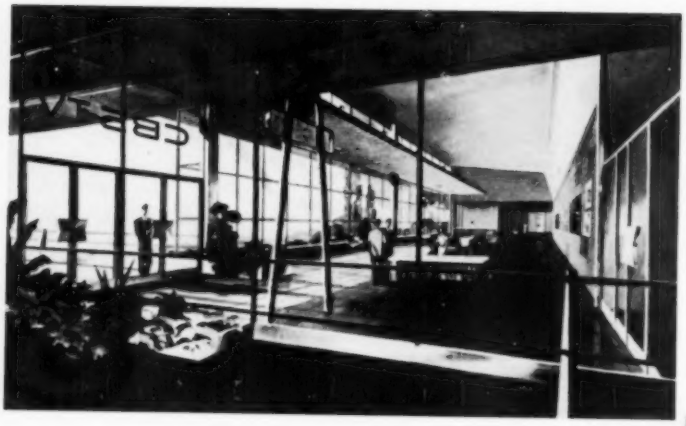
Initial unit of the C.B.S.—TV Center in Hollywood, California, designed by Pereira & Luckman, Los Angeles architects and engineers, is scheduled to open in October. The architects "tried octagons, pentagons, and round structures" to express TV needs, then chose the simple rectangular buildings shown here, which afford maximum plan flexibility.





The first building group designed exclusively for TV begins coast-to-coast broadcasting this fall from an initial 13-acre unit of structures in Hollywood, California, designed by Pereira & Luckman, Los Angeles architects and engineers. Ultimately, the Television Center now under construction for C.B.S.—TV will cover 25 acres and include expanded TV facilities grouped around a 13-story administration building. The first unit is built around a core of four spacious studios (each containing 12,100 sq ft) and will cost about $12 millions. It includes facilities for design of sets (which will be lifted to the

(Continued from page 15)

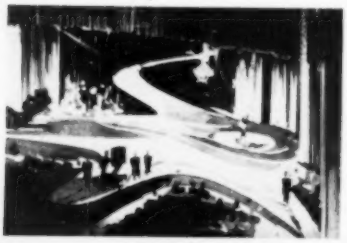


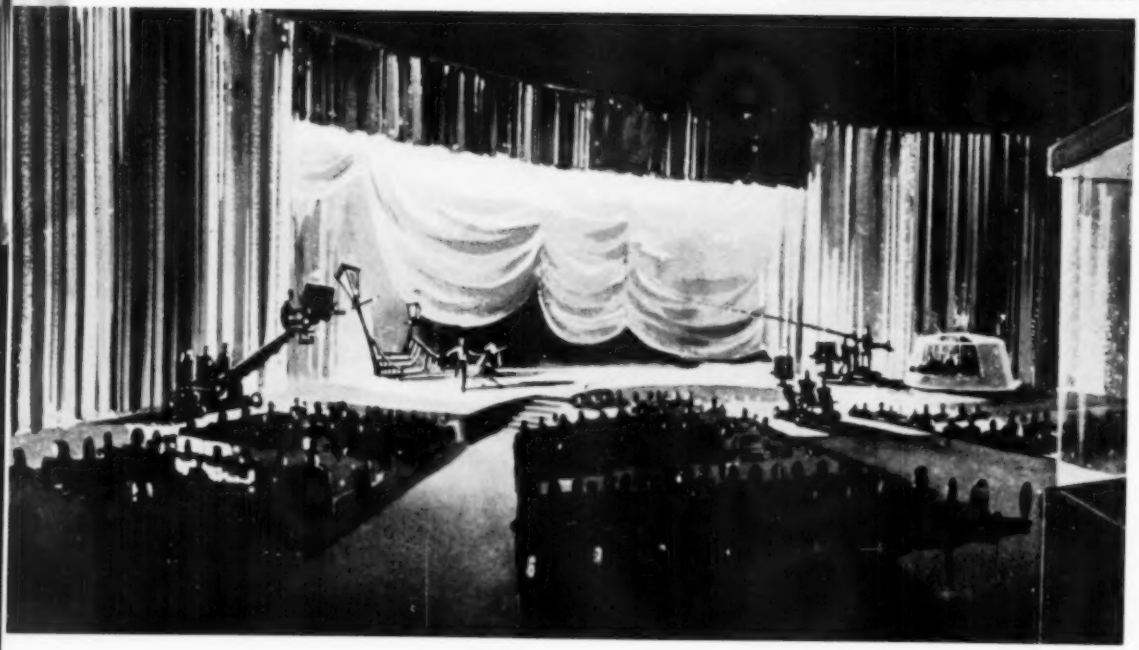
second-story level by huge elevators or hauled to designated stages via a ramp running around the second floor. Set-storage rooms, property storage, paint shops, and carpenter shops, are located to form a "production line" to speed technical steps that must precede the TV broadcast. The initial unit will have a production capacity of 28 hours a week.

For the present, administrative offices, space for writers, directors, producers, and clerical offices will be accommodated in a four-story structure. Near the TV studios are located dressing rooms for the actors and entertainers, three large rehearsal halls, and other related facilities. Pereira explains:

"The entire facility of the initial unit is really an experimental workshop and we intend, in the future, as the plant expands,

(Continued on page 18)





And at Camp Cooke– A FUTURE OF FAULTLESS SERVICE

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architects
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Maximum is an apt descriptive phrase for this huge COYNE & DELANY FLUSH VALVE installation recently completed on the West Coast. Intended for maximum security, it is likely by its very nature to also receive the maximum in abuse. Performing their part in reduced maintenance effort are nearly 1200 diaphragm type DELANY VALVES—rugged and trouble free due to the distilled simplicity of their design. Fine performance is further insured by the use of the pioneer DELANY NO. 50 VACUUM BREAKER — providing the maximum in health protection.

The only vacuum breaker that assures freedom from water polution, at all times, is the DELANY NO. 50 VACUUM BREAKER. Not only will it tell-tale the slightest defect, but, of paramount value, it will function as intended even though neglected. Streamlined, simple in design, with only one moving part, its ease of maintenance is evidenced by the cut-away illustration shown at the left.

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PROGRESS PREVIEW

(Continued from page 16)

to relocate many facilities. For example, the central technical area, which contains master control, recording, telecine equipment, and film storage, will have to expand with it. The scenery and prop areas also will expand in direct proportion to the studios . . . never more studios . . . than we have storage space and technical facilities to support."

The architects were told that the plant must be so flexible that it could be expanded or changed in plan, with growth and development of television, without ever losing advantages of rapid economic production. The building walls, some of them of glass, are hinged on iron connectors at each supporting point of the frame and thus can be moved outward when more building is to be added. The present long buildings, approximately 150 ft wide, can be readily subdivided into areas needed for differing steps of preparation or TV production. Many of the partitions are movable and the adjoining spaces can be merged or separated, as production requirements dictate.

Lighting, acoustics, furniture design, earthquake protection were all considered by the architects during the planning stage. And it is anticipated that the new Television Center will exemplify the most advanced development in all respects. The president of C.B.S.-TV, J. L. Van Volkenburg, estimates that the Television Center will have capacity to stage 22 times as much entertainment annually as any of the Hollywood movie lots—and roughly 23 times the annual *new* entertainment total of New York's legitimate theater.

CUT DOWN OVERHEAD

LOXIT
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Floors in gymnasiums and auditoriums are subject to hard usage. This usually means costly maintenance—but many outstanding schools and public buildings have solved this problem with the Loxit Floor-Laying System. Loxit supplies the answer with a floor-laying system that means years of trouble-free service. No special tools are required and installation is simple. Uses standard T & G Wood Strip Flooring without nails, wood sleepers or mastics.

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NOTICES

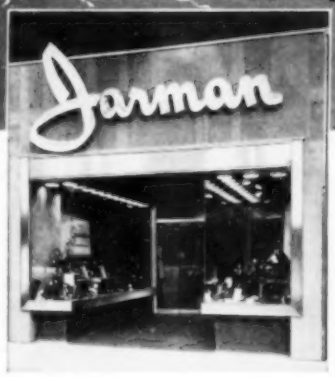
competitions

West Coast plywood manufacturers are offering home owners $20,000 in cash prizes in a new remodeling competition. The competition, described by DOUGLAS FIR PLYWOOD ASSOCIATION as a "Room-for-Improvement" contest, is aimed primarily at the general public but it offers architects a chance to try a design problem. Winners can receive as high as $3000 and an additional $1000 bonus, if the remodeling is completed within a year. Eight local architects will be commissioned to design solutions to the remodeling problems posed by home owners who are top winners. Entry blanks can be obtained by writing to Douglas Fir Plywood Association, Tacoma 2, Wash.

Architectural firms in the U. S. and Canada which designed or constructed, in whole or in part, any school or college building during

(Continued on page 20)

Beacons FOR BUYERS Smartly Styled with BRASCO ARCHITECTURAL METAL SETTINGS

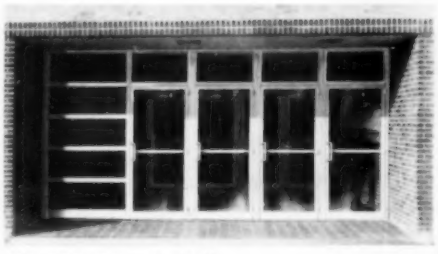


Jarman's, Memphis
Archt. S. Feingersch, New York

Archt. Glen C. Hancock, Charleston, W. Va.

J. C. Penney Co.
Silver Spring, Md.

Installation at Hopkins, Minn.



Office Building Entrance, Topeka, Kan.
Architects, Stookey and Howells

The Lighthouse
Richmond, Va.

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STORE FRONTS

BRASCO MANUFACTURING CO.
HARVEY · (Chicago Suburb) · ILLINOIS
Specialists in Metal Store Front Construction for more than 40 Years

NOTICES

(Continued from page 18)

1952, are eligible to enter the BETTER SCHOOL DESIGN COMPETITION of *The School Executive*, national educational journal. Approved by the Committee on Competitions of the A.I.A., the competition will be judged by a committee consisting of JEPP S. REISNER, Chairman, W. W. Caudill, and EDWARD FLEAGLE, all Architects; DON L. ESSEX, Director of the Division of School Buildings and Grounds, New York State Department of Education; and ARCHIBALD B. SHAW, Superintendent of Schools, Scarsdale. KENNETH GIBBONS, of the firm of Gibbons & Heidtmann, New York, N.Y., will be Professional Adviser for the competition. The competition is designed to encourage creative thinking in the design of new school buildings and to call attention to design which is considered to be meeting present-day needs. Entry blanks may be secured by architects from WALTER B. COCKING, Editor, at *The School Executive*, 470 Fourth Ave., New York 16, N.Y. Competition entry blanks must be submitted and approved by December 15, 1952.

Parents' Magazine announces its 3rd Annual Builders' Competition (1951-52) for the BEST HOMES FOR FAMILIES WITH CHILDREN, to bring attention of the home-buying public to the pacemaking work of the nation's leading builders by finding and selecting the best homes for families with children which were built and sold in the U. S. during the period, January 1, 1951 to July 1, 1952. To be eligible for competition each house must be owner occupied by families with one or more children. Entries to be returned must be clearly so marked and will be returned express collect. Entries to be received not later than August 1, 1952. Prize-winners to be announced early in October 1952. Send all entries prepaid to: Builders' Competition for Merit Awards, *Parents' Magazine*, 52 Vanderbilt Ave., New York 17, N.Y.

presentation to university

MRS. JOHN NOLEN of Canton, Mass. has recently presented a major part of her husband's professional library to the University of North Carolina and certain selected items to M.I.T. MRS. NOLEN'S presentation was made to the University at Chapel Hill for the purpose of strengthening the resources of another regional center of education and research in planning. The library is to be known as THE JOHN NOLEN MEMORIAL COLLECTION IN CITY & REGIONAL PLANNING. It contains several thousand books, reports, periodicals, and journals, and nearly 5000 pamphlets, constituting one of the most complete collections of planning literature covering the period of pioneer planning during the last part of the 19th century and the first third of the present century.

architectural award

Froelicher Hall, Goucher College, designed by MOORE & HUTCHINS, Architects, New York, was among four buildings erected in Baltimore, Md., during the last two years to win an architectural award in the biennial contest of the Baltimore Association of Commerce.

10 in the ENTRANCES to
First Church of Christ Scientist
New Haven, Conn.

Ellison the BALANCED DOOR

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The Door that lets
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representatives in 71 principal cities

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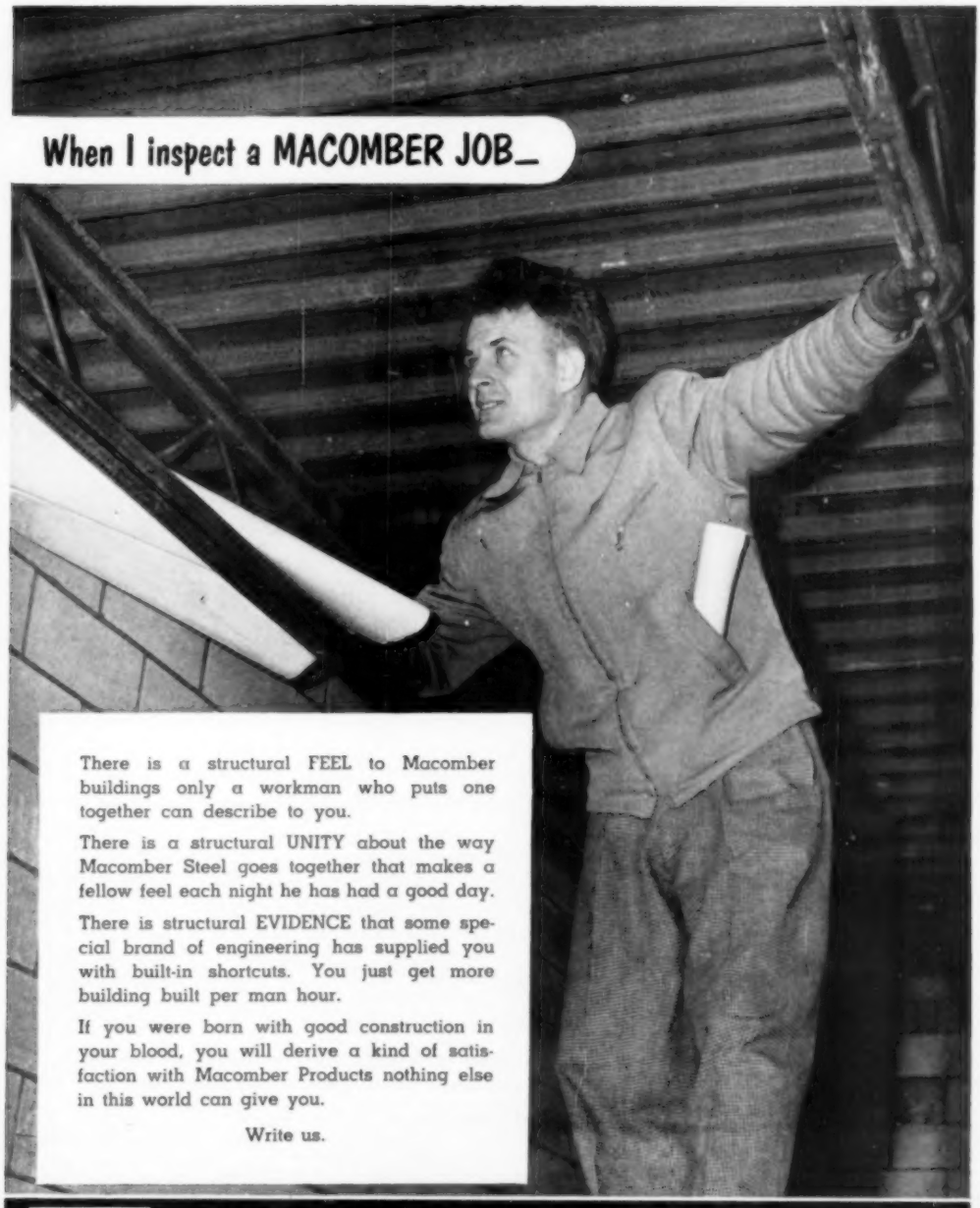

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What new development lets doctors "prescribe" room temperatures like medicine?

What modern adaptation of an old remedy is being used to fight children's respiratory ailments?

What new device helps obstetricians make childbirth easier and safer? This is your

Hospital Progress Report From Honeywell

Latest safeguard for expectant mothers now in use at leading university maternity hospitals

Obstetricians at four major university maternity hospitals in United States and Canada are now using a new device which gives advance indications of any abnormality in childbirth labor. Johns Hopkins physicians, in collaboration with Statham Laboratories of Los Angeles, originated this Tokodynamometer, which by means of strain gauges placed on the abdominal wall, measures simultaneously contractions from segments of the muscle of the uterus and charts them electronically on a specially designed Honeywell strip-chart recorder. This gives doctors advance indications of any irregularity in the labor in ample time to take corrective measures.

Individual room temperature control being installed in new University of Texas cancer research center

Progress in cancer research will be immeasurably aided when this M. D. Anderson Cancer Hospital for cancer research is completed in the Texas Medical Center in Houston sometime this year. It will be one of the finest equipped hospitals of its type in the world.

In their plans, the administrator, architect and engineer considered patient comfort as well as requirements of the different research laboratories. It was found that Honeywell Individual Room Temperature Control fulfilled the requirements of *both* research and patient areas.

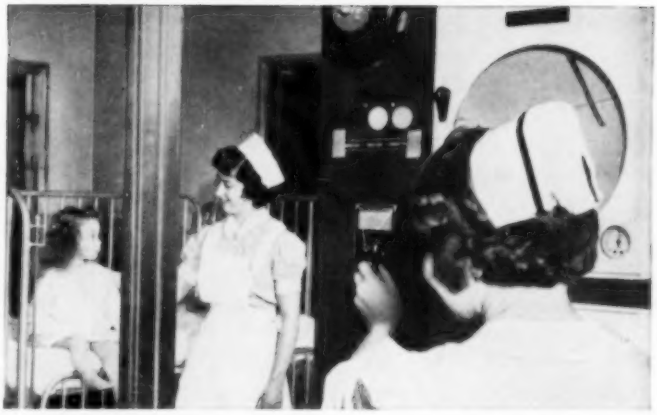
Architects: MacKie & Kamrath, Houston Consulting Engineers: Lockwood & Andrews, Houston

Now . . . A thermostat exclusively designed for hospital use!

Physicians, administrators, architects and engineers have often requested a special-type thermostat that would meet the rigid requirements of hospital use. To meet this need, Honeywell developed this Hospital Thermostat.

Its special features allow *maximum hospital operating efficiency*. Honeywell's exclusive *"Nite-Glowing" dials* permit night inspection without disturbing patients! *New magnified numerals* make readings easier to see. And the specially designed *Speed-Set control knob* is camouflaged against tampering.

With one in every room, doctors can "prescribe" the exact temperature each patient needs to speed his recovery.



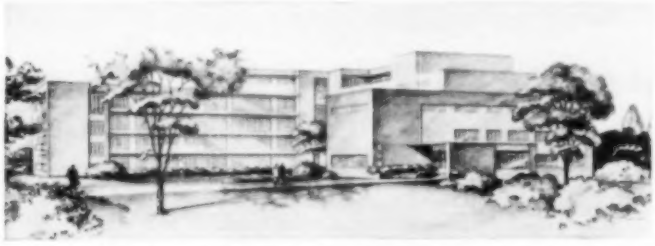
Special high-humidity rooms prove effective treatment for children's respiratory cases

Steam inhalation is an old and popular method for many respiratory ailments. At Chicago's famous Children's Memorial Hospital, this well-known therapy can now be more effectively employed since the recent completion of two modern high-humidity rooms.

Remarkable humidity conditions are being created in these rooms! At normal dry bulb temperatures of 75 to 78 degrees, humidity can be maintained at 95 to 98%! Everything is controlled from a panel outside the room without interrupting nursing procedures.

These rooms are proving most helpful, for they allow the children to move freely while under treatment. Supplementary therapy is simplified. For example, an oxygen tent can be used simultaneously with humidity treatment.

Architects & Engineers: Pedrey & Jenkins, Chicago Mechanical Contractor: Air Comfort Corp., Chicago



New Colorado hospital to be heated throughout with radiant ceiling panels

When this beautiful new Weld County Public Hospital at Greeley, Colorado, was being planned, patient comfort received high consideration by all concerned. For example, the *entire* building will be heated by radiant pipe coils, concealed in the ceiling. And for accurate, dependable control of temperatures throughout the building, including the air conditioning in the operating rooms, hospital officials selected Honeywell Individual Room Temperature Control.

Individual Room Temperature Control is the most practical way to compensate for the varying effects of wind, sun, open windows, or internal load.

Architects: Fisher and Fisher, Sidney G. Frazier, Architects Associated, Denver and Greeley, Colorado
Consulting Engineers: Samuel R. Lewis and Associates, Chicago, Illinois
Mechanical Contractor: Johnson & Davis Plumbing & Heating Co., Denver, Colorado

For additional information on any of the installations, products or systems mentioned in this report, call one of the 91 Honeywell offices, located in key cities from coast to coast. Or for free hospital literature, fill in the coupon below and mail to us today.

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Gentlemen: Please send me the hospital booklets I have checked below:

- ☐ *"Which is the old-fashioned Hospital?"* . . . the story of Individual Room Temperature Control.
- ☐ *"Plan your hospital's atmosphere"* . . . how automatic temperature control can help you in all parts of your hospital.
- ☐ *"Heating and air conditioning controls for the modern hospital"* gives recommendations for surgery and maternity sections.

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Hospital Name .....
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NEW Crawford Magi-Cote PROCESS

seals all surfaces (*including those not usually painted*) against moisture, fungus, molds, dry-rot, insects, etc.

EACH section of each Crawford-built door (east of the Rockies) now undergoes a 3-minute Magi-Cote Process immersion in colorless liquid chemical seal which closes wood pores to all destructive elements.

Magi-Cote penetration is such that a 10′ x 10′ door drinks up five quarts of liquid. Sections are then air dried. Magi-Cote effectively seals all surfaces (including those usually left unpainted) against moisture, fungus, molds, dry-rot, insects, etc. It protects the door against soiling during erection and against moisture while it is waiting for whatever finish is to be applied. Because it controls the porosity of the wood, it is an excellent base for varnish or paint, and gives these finishes superior stand-out and durability because their binders are not absorbed but stay where they belong, in the material, on the surface.

When you specify Crawford-built doors (Marvel-Lift, Fleetwood, Stylist or Doormaster, all sizes, all models, east of the Rockies) your client gets Magi-Cote Process protection as standard.

A sample of Magi-Cote treated wood is yours for the asking.

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SALES AND SERVICE companies everywhere.

Kitchen design by George Nelson, A. I. A.

"CLAY TILE...PRACTICAL...CONVENIENT...BEAUTIFUL! A STIMULUS TO DYNAMIC NEW DESIGN"

George Nelson

Architect George Nelson used Clay Tile in designing this idea-provoking kitchen. Spacious clay tile work surfaces, easily cleaned and glowing with color . . . suspended over the warm red tones of a clay tile floor that needs only an occasional swabbing with a damp mop. A handy bank of waist-high refrigerator doors and an oven recessed in a mellow background of glazed wall tile—the most soil-resistant and enduringly beautiful of all wall surfaces. A clay tile, heat-resistant counter top which enhances the convenient burner unit with practical beauty.

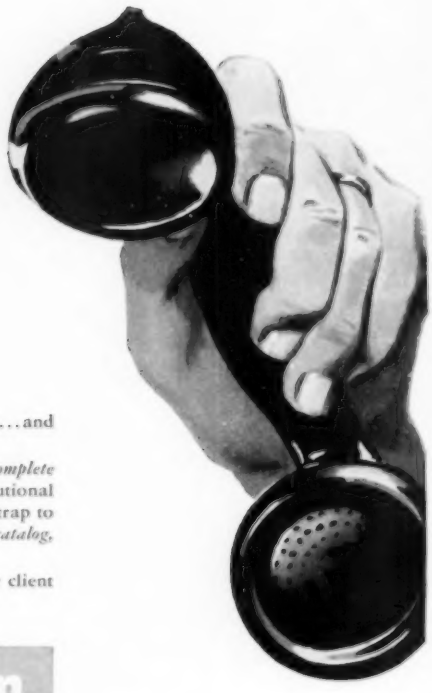
Whether you plan to design, build or remodel a commercial, industrial or residential structure, remember clay tile. An ever-increasing range of ceramic "fired-fast" colors and designs is available. You can recommend or use clay tile without reservation in any situation calling for a durable, beautiful surface that will resist intense heat, moisture, staining, scratching or fading. Wherever clay tile is installed, two distinct advantages immediately result: a sharp drop in maintenance costs and a permanent stoppage to refinishing and replacement costs.

Tile Council of America, Room 3401, 10 East 40th Street, New York 16, N. Y., or Room 433, 727 West Seventh Street, Los Angeles, California

The Modern Style is

GENUINE CLAY
tile

PARTICIPATING COMPANIES: American Encaustic Tiling Co. • Architectural Tiling Co., Inc. • Atlantic Tile Mfg. Co. • B. Mifflin Hood Co. • Cambridge Tile Mfg. Co. • Carlyle Tile Co. • General Tile Corp. • Gladding, McBean & Co. • Mosaic Tile Co. • Murray Tile Co., Inc. • National Tile & Mfg. Co. • Olean Tile Co. • Pacific Clay Products • Pacific Tile and Porcelain Co. • Pomona Tile Mfg. Co. • Robertson Mfg. Co. • Summitville Tiles, Inc. • United States Quarry Tile Co. • Winburn Tile Mfg. Co.



Keep that phone **on** the hook ...and yourself **off** it

Specify Dunham Throughout next time you write heating specs...and you eliminate the confusion of divided responsibility.

You can specify Dunham *throughout* because Dunham makes a *complete quality line* of heating equipment for industrial, commercial, institutional and residential buildings. Everything from the simplest radiator trap to fully automatic precision temperature control systems—all in *one catalog*, too, for your convenience.

Make it a flat specification for Dunham heating and keep your client ... and yourself ... happy.

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Linoleum, the oldest, most thoroughly tested and proved of all resilient floors, is still the best economic value in its price class. Long wearing, quiet and comfortable underfoot, greaseproof, easily maintained, Armstrong's Linoleum also offers the widest choice of beautiful designs and the most complete color range of any flooring.

American Airlines Ticket Office
Los Angeles, California
Arthur & Ross Hutchason, Architects

ARMSTRONG'S LINOLEUM

ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA

NOW! LINOLEUM GETS IN ON THE

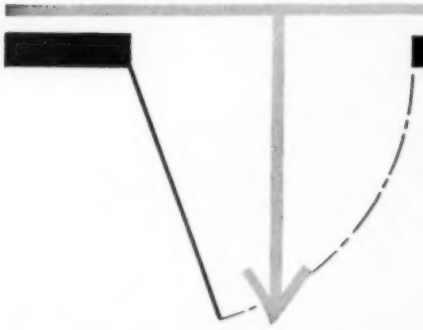
Look to the GOLD SEAL for leadership!

NEW GOLD SEAL

TRADE-MARK

Ranchtile LINOLEUM

GROUND FLOOR



. . . genuine INLAID LINOLEUM developed, proved and GUARANTEED for ON-GRADE CONCRETE installation

Here's wonderful news . . . a floor that meets a very real need in today's houses: genuine *inlaid linoleum* . . . for installation over concrete *on-grade*. It's Gold Seal Ranchtile Linoleum . . . designed to sweep right through every room of every new ranch-style house. After exhaustive proving tests . . . Congoleum-Nairn has developed Gold Seal Ranchtile . . . and *guarantees* it with their famous money-back guarantee of satisfaction.

Gold Seal Ranchtile gives you a real *plus* in every ranch-style building you design. No longer is hard, brittle tile essential for on-grade concrete installations. Specify Gold Seal Ranchtile and you get genuine inlaid linoleum at its very best . . . with *true resilience . . . bright, clear colors . . . smooth surface . . .* and *grease resistance* . . . for all the rooms in the house! The six handsome colors in a pleasing modern texture are designed to fit perfectly into homes decorated for today's casual living. Complete installation specifications are in every box.

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Kearny, New Jersey. Makers of guaranteed floor and wall coverings: Gold Seal Nairn Inlaid Linoleum • Gold Seal Congowall • Gold Seal Vinyl Inlaids • Gold Seal Congoleum • Gold Seal Asphalt Tile.
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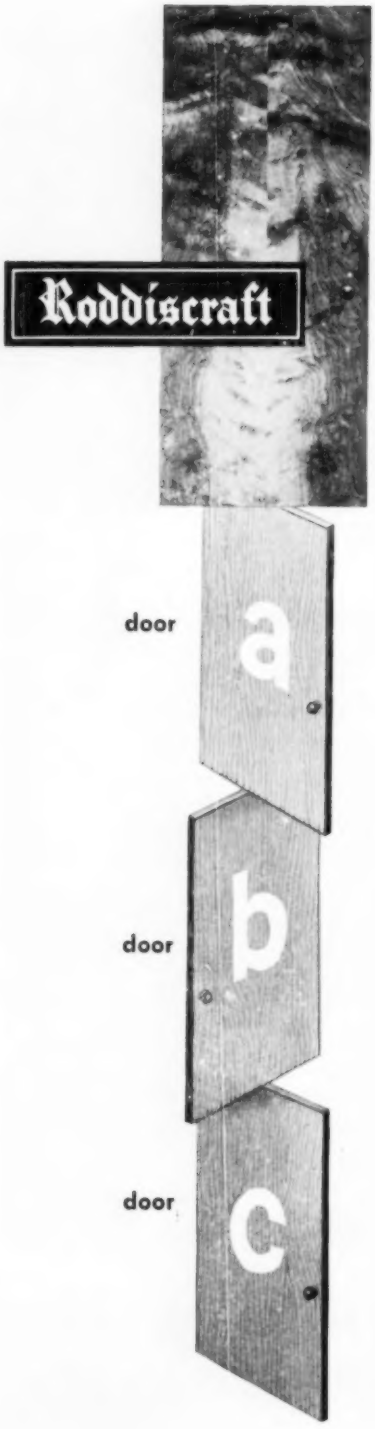

✓ Top Door in a preference poll

RODDISCRAFT Flush Doors are preferred by architects nearly 2 to 1 over the second-choice door, according to recent surveys.

Such leadership imposes real responsibility—and an obligation to produce quality doors that will merit the continued preference of members of the profession.

Roddiscraft has put quality first for more than sixty years. This policy which has earned the preference of architects today will continue to govern our operations tomorrow.

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RODDIS PLYWOOD CORPORATION

Marshfield, Wisconsin

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

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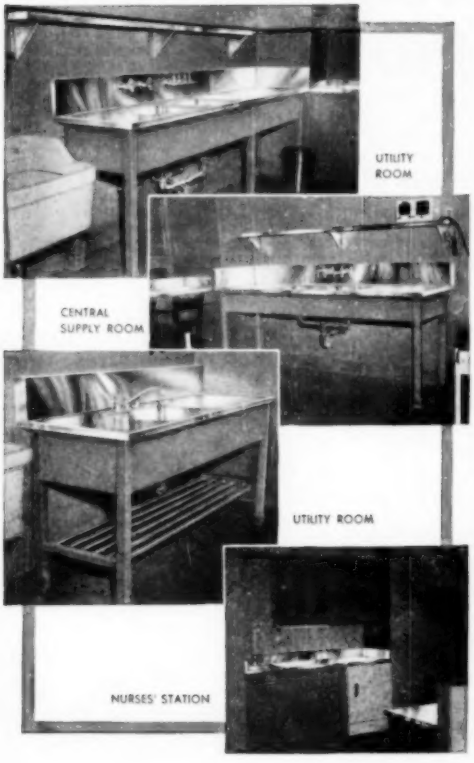
LOUISE OBICI MEMORIAL HOSPITAL, SUFFOLK, VIRGINIA
BASKERVILL & SON, ARCHITECTS — VIRGINIA ENGINEERING CO. INC. GENERAL CONTRACTORS

America's Most Modern Equipment

installed in one of

America's Most Modern Hospitals



Whenever and wherever Sanitation and hygienic cleanliness are of utmost consideration, the first choice is

Just Line

Stainless Steel Equipment

In the planning of the LOUISE OBICI MEMORIAL HOSPITAL in Suffolk, Virginia, no expense was spared to make this institution the last word in modern hospital efficiency.

Illustrated here are just a few *JUST LINE Stainless Steel* installations in this ultra modern institution dedicated to health.

JUST LINE Stainless Steel equipment is the recognized standard among leading hospital administrators, pathologists, architects and engineers. They recommend and specify *JUST LINE Stainless Steel* equipment because it gives the utmost in sanitation and dependable service.

Regardless of what your requirements may be send us your specifications. Our Engineers will furnish estimates without obligation.

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9233 King Ave., Franklin Park, Illinois

Plywood Built-Ins Often Mean The Difference Between FOR SALE and SOLD

No DOUBT about it, plywood built-ins have buy-appeal. Space-thrifty plywood storage wall, built-in dining bar or crisp kitchen cabinets can often mean the difference between a house that's snapped up the minute it's offered and one that's a drug on the market—an important fact to consider as selling becomes more and more competitive.

And it's so easy to add client and customer-winning distinction to your homes with plywood built-ins. For no other material is so adaptable to specific design and space requirements. With plywood, you can make the built-in fit the house—*exactly*. No bothersome juggling of "stock size" units. No limit to size, design, finish or color. Plywood works quickly, easily with ordinary tools. It is equally adaptable for construction of shop-fabricated units. Plywood won't split, chip or puncture. *It's the logical material for every built-in.*

Douglas Fir

Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

Portfolio of Prize-Winning Built-Ins. Valuable collection of designs that will serve as a springboard for your own imagination. Contains over 50 designs judged best in the national "Better Living Home" architectural contest. For your free copy write Douglas Fir Plywood Association, Tacoma 2, Washington.

PANEL DISCUSSION

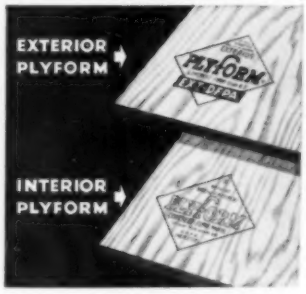
Builder Saves $10 Per Square With Douglas Fir Plywood

With unlimited choice of building materials, Rusdick Lumber Sales chose plywood siding for its new Tacoma, Wash. warehouse and the builder reports the panels cut construction costs by $10 per square. "We chose plywood because we like a smooth, flush exterior surface but cost was an important factor and plywood was cheaper," says part-owner Russell Ross.

MacDonald Building Co. designed and built the new structure. According to L. B. MacDonald, plywood afforded the least expensive satisfactory construction. He estimates the in-place cost of plywood, unpainted, with studs 16", o.c., and metal flashing, at $68 a square—some $10 less than the in-place cost of other siding combined with the necessary sheathing.

The building is 50' by 150', 20' high to the roof trusses. PlyShield grade plywood, ⅜"-thick, was used as a combined siding-sheathing. Panels were applied horizontally with metal flashing.

PlyForm Grade Plywood Now Made In Two Types



The familiar PlyForm grade-name now identifies special concrete form grades within both Interior and Exterior-type fir plywood. Exterior PlyForm replaces the old Exterior Concrete Form grade-name. Identified by the new diamond-bar symbol shown above, Exterior PlyForm with 100% waterproof bond is intended for use where forms will be used until the wood itself is worn away. Simultaneously, the highly moisture-resistant glueline of Interior PlyForm has been fortified for better service, and up to 10 or 15 re-uses may be expected even though glueline is not permanently waterproof.

Tests Prove Plywood's Great Resistance To Lateral Loads

New design data proving the extra strength and rigidity imparted by plywood subfloors and roof sheathing have been developed by plywood research engineers, culminating 14 months of tests. The new design data permits architects and builders to specify plywood floor and roof construction in schools, commercial and industrial buildings with full confidence that the structure will withstand the great lateral stresses caused by windstorms or earthquakes.

Plywood Thickness	Nail Size	Shear (lb-per-ft.-width) 2⅛" framing		
		Nail Spacing on all panel edges		
		6"	4"	3"
5/16", ⅜"	6d com.	185	280	315
⅜", ½", ⅝"	8d com.	265	400	450
½", ⅝"	10d com.	320	480	545

Tabulated shears should be reduced one-fourth for other than wind or seismic loads. Diaphragm width measured parallel with load.

As one result of the tests, Uniform Building Code has been amended to permit greater allowable lateral loading for plywood diaphragms as shown above in condensed form. Complete data is available from Douglas Fir Plywood Association, Tacoma, Washington.

Plywood Helps Complete Rush Job On Schedule

A crew of 25 men completed construction of the new Lakewood (Wash.) Branch of the Puget Sound National Bank in 10 working days to hang up what might well be a record for buildings of its kind.

The final decision to rush construction of the 2,600 sq. ft. building was made by bank officials only 18 days before job completion. Architects Lea, Pearson and Richards went to work to meet the "impossible" schedule. To give the builder every opportunity to save time, they turned to virtually all-plywood construction. Drawings and specifications were completed within a week and work was begun under the direction of O. D. Parker, building superintendent for Ketner Bros., Inc., contractors.

According to both builder and architect, plywood made possible the speed of building. The big panels were used for combined siding-sheathing, gable ends, interior paneling, roof decking and underlay floors. The plywood board and batten siding is painted barn red to contrast with white flush-surfaced gabled ends. Interior paneling is painted light green.

(Adv.)

Prove It Yourself-PlyScord® Roof Decks Actually Cost Less

HERE's paper and pencil proof that you *can* cut costs with PlyScord grade plywood. Figure it *both* ways on the chart below. Then make a special note to put PlyScord on your next bill of materials—for better construction . . . for lower in-place costs.

Estimating Chart to Cover 1,000 Square Feet of Roof Area*

PLYSCORD	RATE	TOTAL	LUMBER	RATE	TOTAL
1,056 sq. ft. ⅜" or 5/16"			1,200 ft. b.m. 1x8 shiplap		
Nails 6d-12 lbs.			Nails 8d-20 lbs.		
Carpenter 6 Hours			Carpenter 11 Hours		
Helper 3 Hours			Helper 5 Hours		
TOTAL COST IN PLACE.....			TOTAL COST IN PLACE.....		

*Data developed from Walker's "The Building Estimators' Reference Book"

Douglas Fir

Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

® PlyScord is the unsanded construction grade of interior-type plywood bonded with highly water resistant glues. For subflooring, sheathing, backing, one-use forms. PlyScord is a registered grade-trademark identifying quality plywood manufactured in accord with U. S. Commercial Standards and inspected by Douglas Fir Plywood Association (DFPA).

This Double Talk Makes Sense!

Edwards New "Soft Speaking" Nurses' Call Station Doubles Room Capacity in Smaller Unit

Two great names in sound and signaling . . . Stromberg-Carlson and Edwards combined to make this new Master Station more compact, convenient and efficient than ever.

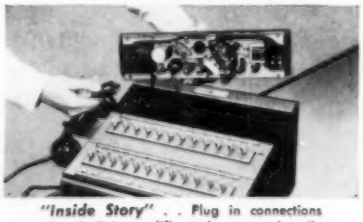
Now, *two* rooms can be served by a *single* key. Yet each room retains Edwards privacy feature — only the patient can initiate the call. Room range is doubled yet the dimensions of the Master Station are substantially smaller. A new press-to-talk button in the handset frees one hand of the nurse to take notes. The super-sensitive Stromberg-Carlson amplifier built into the station, can be removed easily for service. Maximum patient protection is assured by a supervisory lamp that lights even if a station lamp burns out. An emergency lamp records calls from nursery, toilet or any other designated location.

These are a few of many features that make this new Edwards Master Station the most efficient ever engineered. Write for free bulletin today. Edwards Company, Inc., Dept. P-7, Norwalk, Conn.

Precision Built for Long Life and High Efficiency

1. Rugged, dynamic Telephone Transmitter
2. Three-level Volume Control steps up weakest voice
3. Long Life Telephone Switchboard Lamps
4. Double Throw Cam Keys
5. Smart, attractive office-gray finish
6. Choice of 12, 24, 36 or 48 Stations
7. Two-Stage Class A Amplifier built into station
8. Flexibly engineered to meet any requirements
9. Has Edwards privacy feature . . monitor or reset at Nurse's Station available when specified

No More "3 Handed Nurses" . . Convenient press-to-talk button in handset opens communication with patient, leaves nurse's hand free to make necessary notes.



"Inside Story" . . Plug in connections allow built-in amplifier to be removed easily for service. Tubes replaced by simply removing screen ventilating grill at rear of cabinet.

EDWARDS®

World's Most Reliable Time, Communication and Protection Products For Schools, Hospitals, Industry and Homes.

Passing the hardest tests in school interiors

STARK GLAZED FACING TILE

Archbishop Stepinac High School, White Plains, N. Y.
Geo. A. Fuller Co., Gen. Contractor; Eggers & Higgins, Architects

Test for construction costs. Stark Glazed Facing Tile is a modular-sized unit that saves planning, cutting and fitting costs. You build the wall and finish with one material.

Test for maintenance. You never need to paint or refinish walls of Stark Glazed Facing Tile. Cleaning is easy and inexpensive with soap and water.

Test for service. Interiors of Stark will last for the life of the school. They virtually won't scratch, mar or break down under the heaviest traffic. They're permanent as well as fireproof.

Test for color to aid scholarship. Stark Glazed Facing Tile is "color-engineered." You can select colors that aid lighting, that raise morale and create a pleasant atmosphere for study and concentration.

We welcome your inquiries. If you wish a copy of our New Brochure or other information just address your request to Dept. PA-7. See Sweet's Catalog 4f-St.

STARK CERAMICS, INC.
(formerly the Stark Brick Co.)
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In modern buildings, the trend

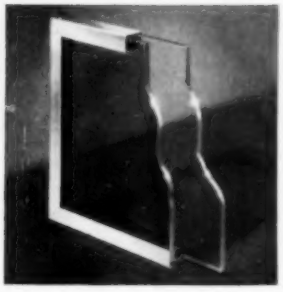
SOLEX HEAT-ABSORBING GLASS was used to glaze the fixed lights of the massive tower section of Lever House in New York City. The second floor section has Solex in the fixed lights, and Solex Herculite in the spandrel lights. Solex assures more comfortable surroundings for employees. It is particularly recommended for southern and western exposures, for it reduces heat and glare; keeps interiors ten to twenty degrees cooler than outside temperature. Architects: Skidmore, Owings and Merrill, New York City.

is toward

SOLEX Heat-Absorbing Glass

...*"the best glass under the sun!"*

6550 SOLEX-TWINDOW units were among the substantial number of Pittsburgh Glass products selected for the mammoth Greater Pittsburgh Airport at Pittsburgh, Pa. Solex increases the visibility of distant objects. And when used in Twindow units—with the outer pane of Solex and the inner light of Plate Glass—it forms an insulating window of extreme efficiency. It offers great protection to delicate electronic instruments against excessive temperature variations. Architect: Joseph Hoover, Pittsburgh Pa.



SOLEX-TWINDOW gives all the advantages of Twindow, "the window with built-in insulation," plus a means for reducing the strong heat and brightness of intense sunlight. The sectional view here shows the make-up of this unit. The outer pane is Solex Plate Glass, the inner clear Plate Glass. Between these two panes is a sealed-in air space. The entire unit is enclosed in a stainless steel frame. This protects the seal and glass edges, making handling safer and easier, and cutting installation time.

AT 525 WILLIAM PENN PLACE, in the heart of downtown Pittsburgh, is this new 41-story skyscraper, completely glazed with Solex—"the best glass under the sun!" Solex transmits 70% to 75% of the sun's total light, but admits less than 45% of the total solar heat. Its soft greenish color, almost unnoticeable from inside the room, is easy on the eyes. Solex reduces fading and bleaching of upholstery, draperies, rugs and other fabrics that are normally affected by sunlight. Architects: W. K. Harrison, M. Abramovitz, New York City, and W. Cocken, Pittsburgh, Pa.

Design it better with

Pittsburgh Glass

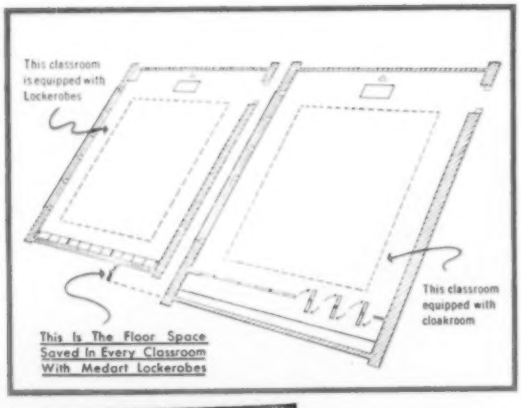
Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company Products . . . Sections 7a, 13a, 16b, 15, 21.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

MEDART

LOCKEROBES


This classroom is equipped with Lockerobes
This classroom equipped with cloakroom
This Is The Floor Space Saved In Every Classroom With Medart Lockerobes

. . . for elementary schools

Compare the floor plans at the left . . . and multiply this saving of space by the number of classrooms in the typical elementary school. Consider the reduced cubic content of each room, and the tremendous saving in building costs made possible by Medart Lockerobes!

But economy in construction isn't all. Because Lockerobes are installed in 16" unfinished recesses, great areas of plaster, tile or glazed brick are eliminated. No overhead framing is required. And finished flooring, necessary in ordinary cloakrooms, can be forgotten. Add to this the saving in maintenance, for Lockerobes are built of steel which requires no upkeep.

Another exclusive feature of Lockerobes is Medart's "Simultaneous-Opening, Master Door Control" by which the teacher alone opens and closes all the doors, by the simple operation of the Master Door Control. There is no disorder, noise or confusion, but neatness, quiet, safety and order.

Lockerobes are vermin-proof, fire-proof and sanitary. There is ample provision for unrestricted air circulation. And extra sturdy, reinforced construction keeps Lockerobes like new for years.

SIMULTANEOUS-OPENING, MASTER DOOR CONTROL

Open this door and all the right-hand doors open.

Open this door and all the left-hand doors open.

Non-recessed Free-Standing Lockerobes, for installation against the wall, on steel or built-in bases, also offer space-saving advantages over old-fashioned cloakrooms, plus all the other features of recessed Lockerobes.

Write For Catalog
that describes both Lockerobes and Medart Grade-Robes

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Telescopic Gym Seats | Lockers & Wire Basket Shelving | Lockerobes & Grade-Robes | Basketball Backstops | Physical Fitness Apparatus | Basketball & Football Scoreboards | Physical Therapy Equipment

THERE'S SALES APPEAL IN GPX SIDING

GPX plastic-faced plywood's unmatched features and cost-cutting advantages are dramatically illustrated by the Place Construction Company's use of GPX Exterior Paint Grade for lapped siding of enduring beauty.

This leading Indiana builder cut large, lightweight panels of GPX into 12-in. strips. Labor costs and time are saved because GPX covers large areas quickly—will not check or crack. Painting costs are cut because there's no need for prime coats. GPX's dense, smooth surface takes finishing coats readily, extends the life of the paint over 50% (a strong point for prospective buyers!). There's added beauty, too, in the deep shadow lines provided by these ⅝-in. thick strips.

Year after year, GPX remains impervious to the effects of weather extremes, free from cracks or checking.

Available in four grades and five thicknesses, GPX offers a new degree of building versatility. If you have a construction problem, bring it to Georgia-Pacific's GPX technical staff. Call your G-P representative or write:

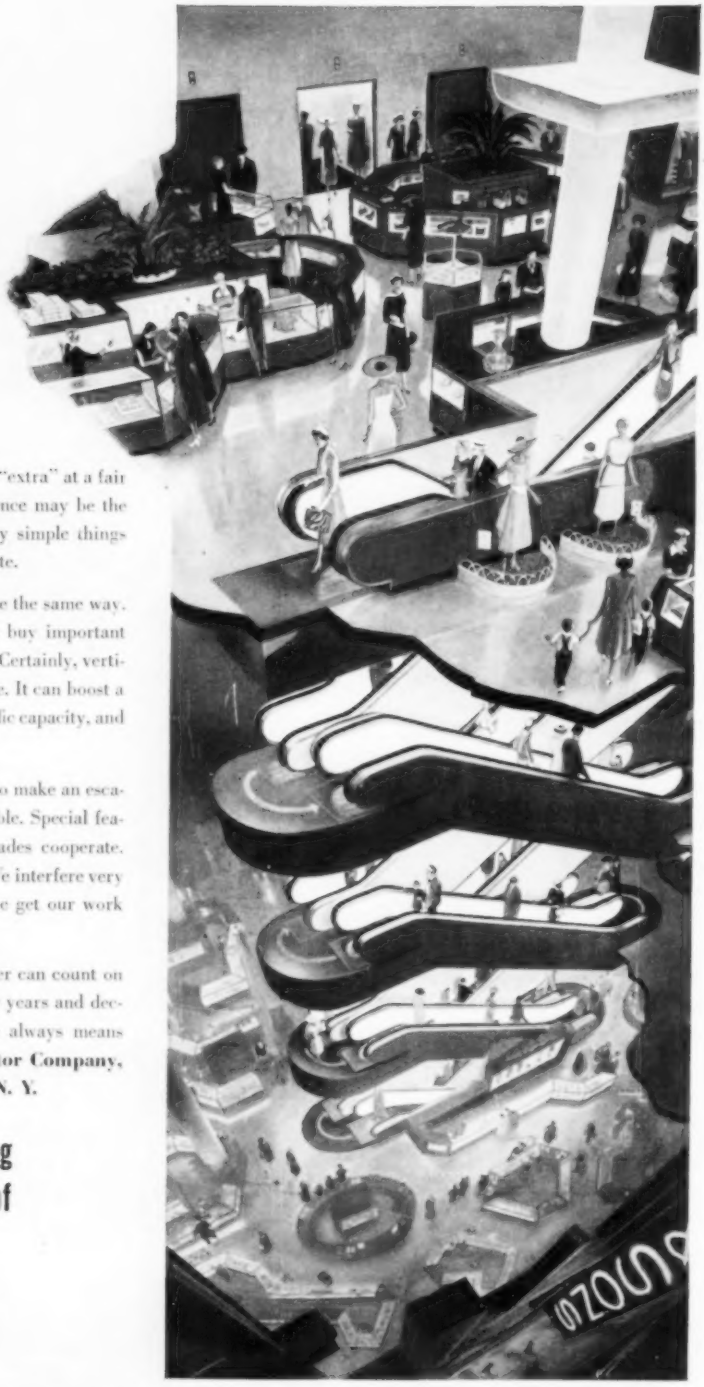
GEORGIA—PACIFIC

PLYWOOD COMPANY

609-7A North Capitol Way, Olympia, Wash.

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Cleveland, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, New Orleans, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

What brings customers back again?



You know the answer. It's something "extra" at a fair price. In a store, shopping convenience may be the extra. Or, patrons may be drawn by simple things like friendliness and trusted good taste.

Customers for Otis escalators are the same way. Like shoppers in stores, they try to buy important things wisely, from sellers they trust. Certainly, vertical transportation is a major purchase. It can boost a store's sales. Yet mistakes may cut traffic capacity, and they're very costly to correct.

Otis has solved many problems to make an escalator installation as painless as possible. Special features help craftsmen of different trades cooperate. This cuts installation time and cost. We interfere very little with shopping activities, and we get our work done promptly.

Most important, an Otis customer can count on good performance, day after day, for years and decades. The responsibility we assume always means an extra value for you. **Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.**

Better elevatoring is the business of

Otis

Escalators • Passenger Elevators • Freight Elevators • Electric Dumbwaiters • Maintenance • Modernization

New Colors...soft-toned and function fitting

now yours in real clay *Suntile*

WHAT THESE COLORS MEAN TO INDUSTRIAL PRODUCTION

Production has increased both in quantity and in quality!

This is the usual report you'd get if you visited an industrial plant where functionally correct colors have been selected for walls and floors.

Color fitted to the function of industrial interiors helps reduce accidents, aids lighting and saves eyestrain, increases employee morale and efficiency, decreases absenteeism. In short, the *right* color can be a valuable aid to any production process.

Now, with Suntile, you have colors that have been scientifically developed to aid the design and purpose of building interiors...of manufacturing and processing plants, of schools, hospitals, and other institutions, of offices and commercial buildings.

You get more than functionally correct colors with real clay Suntile, however. You also get low maintenance and upkeep, permanence, resistance to fire, economy and ease of cleaning.

Our new color booklet, "Suntile Functional Color Recommendations," describes the Suntile functional color line, tells you how to use color to greatest advantage. See your local Authorized Suntile Dealer, or write our Dept. PA-7 for a copy. **The Cambridge Tile Mfg. Co., P.O. Box 71, Cincinnati 15, Ohio.**

Buff Hauteville 724

Suntile

BUFF HAUTEVILLE 724

A practical color of widespread use

Buff always has been a favorite ceramic tile color. Suntile now has added an attractive subdued mottle and extremely hard surface which give Buff added advantages. Buff Hauteville is one of the best colors where light may be on the dim side or where bright, clean environment is needed. It probably should not be used where critical seeing tasks are performed. However, in large wall areas, corridors, stairwells, locker rooms, boiler rooms, lavatories and gymnasiums and in manufacturing areas of foundries, machine shops, food and chemical plants, Buff Hauteville is ideal. The mottled finish resists soiling and does not require "mirror-clean" maintenance. This is but one of the new Suntile line of functional colors developed by Faber Birren, outstanding color authority, and The Cambridge Tile Mfg. Co.

WEST COAST OFFICES

The Cambridge Tile Mfg. Co.
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SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

steel clad wiring systems
offer protection...security...
permanence unequalled by
any other system

specify

steel clad wiring systems

for all installations

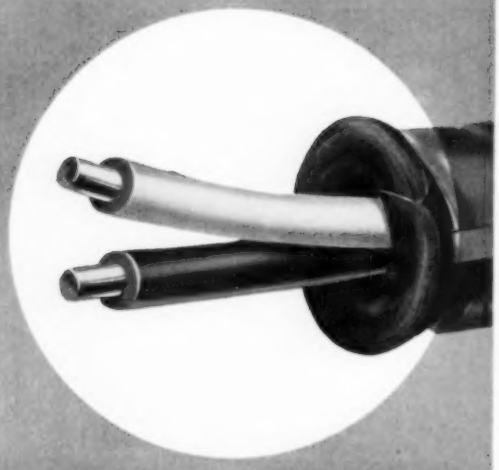
they provide:

- Protection against shock. Steel raceways are completely grounded systems.
- Protection from external mechanical damage to prevent time-consuming breakdowns.
- Protection against moisture.
- Protection against corona cutting and breakdowns on high voltage work.
- Protection against fire hazards.
- Protection against tampering.

steel for permanence...
grounded for safety

save time and money with

...the complete, ready-to-use,



- ABC is the fastest type steel clad system to install.
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- *Dilec-Safecote*—insulated wires, flame retardant, moisture resistant, easy to strip.
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Conduit Systems

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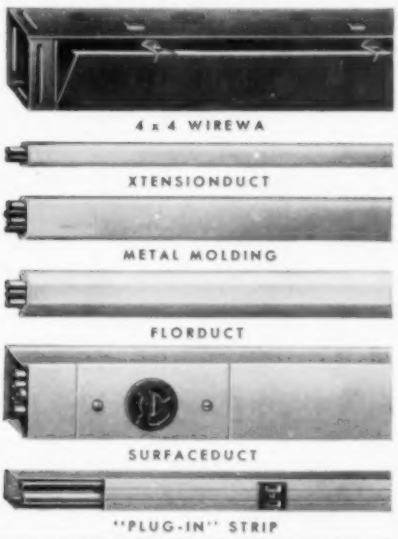

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Listed by Underwriters' Laboratories, Inc. Sold through leading electrical wholesalers. For complete information, write to National Electric Products Corporation, 1328 Chamber of Commerce Bldg., Pittsburgh 19, Pa.

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"It's foolish to try to be bigger than you are"

REMEMBER Aesop's fable of the frog and the ox? Told 2,500 years ago, it goes:

"Three young frogs cried to their mother that a little brother had been trampled by the largest beast in the swamp. 'Oh, no,' said the mother, 'no beast is larger than I.' And she blew herself up to show how big she really was. 'But it was much bigger,' the little ones chorused. Whereupon the vain mother inflated herself until she burst." And the moral was, "It's foolish to try to be bigger than you are."

Aside from the wisdom of the fable for each of us individually, there is solemn warning for us as a nation. Some among us seem to believe that with an unlimited supply of taxpayers' dollars America can buy anything--ease and security at home, acceptance of our ideas abroad, friendship of other peoples, even world peace.

Like the vain frog, America inflates herself more and more dangerously, trying to stretch herself to be the biggest thing in the swamp. Meanwhile the enormous beast that is the world goes its own way, scarcely affected by the vain-glorious display of America's inflation. It's the same old world that was indifferent before the pomp of Egypt, Persia, Greece and Rome.

How will our present "puffing" end? Isn't it obvious that continued inflation can bring disaster? Only by a realistic policy of living within our means--not trying to be bigger than we are--can America avoid the catastrophe of Aesop's foolish frog.

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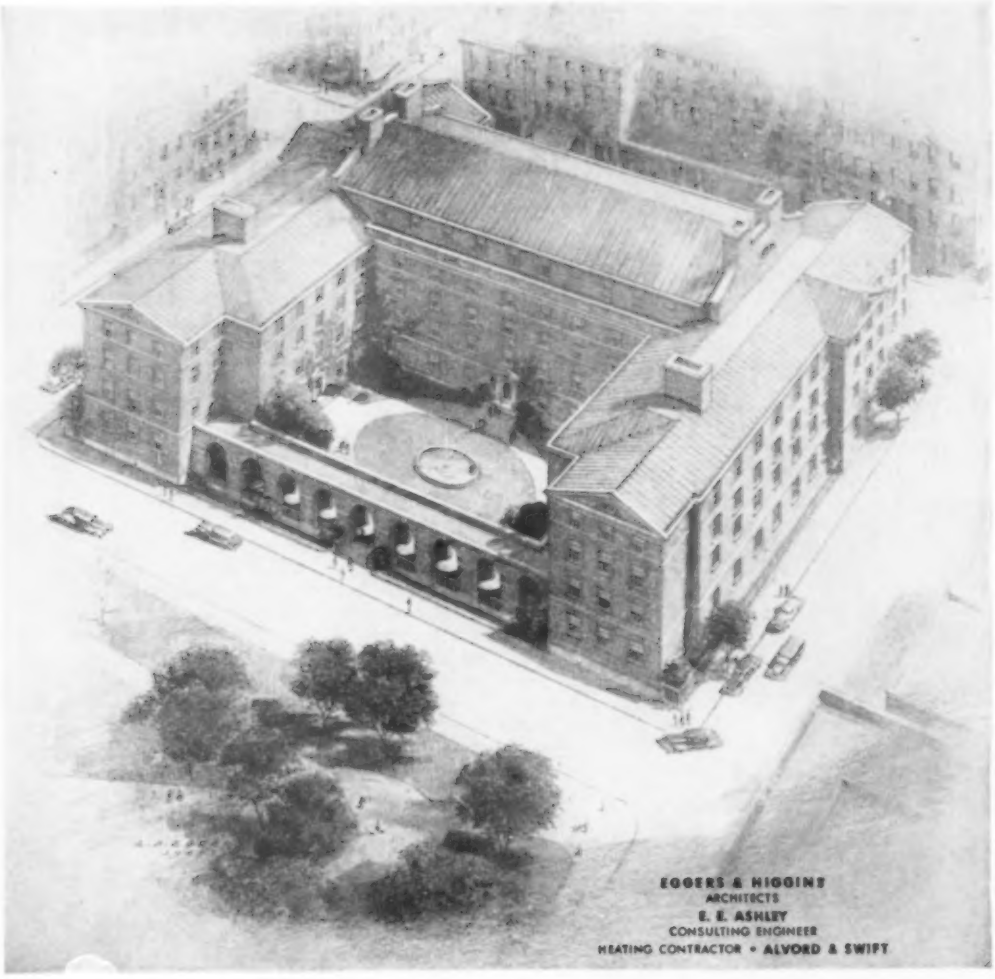

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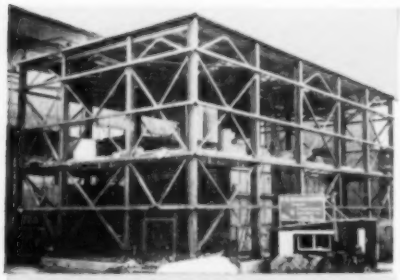


STRUCTURAL STEEL framework of the building, ready for installation of insulated Stainless Steel panels.

PROTECTIVE PAPER covering that kept the panels completely damage-free during fabrication and shipment is removed with a commercial preparation.

ON THE GROUND, panels are drilled for bolts which are used in erection. Two holes are positioned at the top and two at the bottom of each panel.

THE 24" WIDE Stainless panels backed with 1½" Fiberglas insulation and metal-coated steel inner plate are attached to the building's structural members by four ⅛" x 3" round-head Stainless Steel bolts.

TWO MEN handle actual installation of insulated Stainless Steel panels on the building.

MORE than 7,000 square feet of U·S·S 17 Stainless Steel insulated panels form the complete walls of this new building which is an addition to existing steam generating facilities at the jet engine overhaul line at Olmsted Air Force Base, Middletown, Pa.

These Stainless Steel panels were installed by a crew of eight men in only 11 working days. One group of four men removed the protective paper and drilled the panels, and a second group of four drilled the girts and bolted the panels into place.

Quick installation like this—*in any weather*—means much lower labor costs. And that's but a part of the dollars-and-cents advantage of using Stainless Steel panel construction.

In the long run, the durability and corrosion resistance of Stainless Steel walls, the light weight in comparison to conventional building materials, the low "U" value or heat transmission factor all indicate that the cost-per-year will be lower than many building materials that may have a slightly lower initial cost.

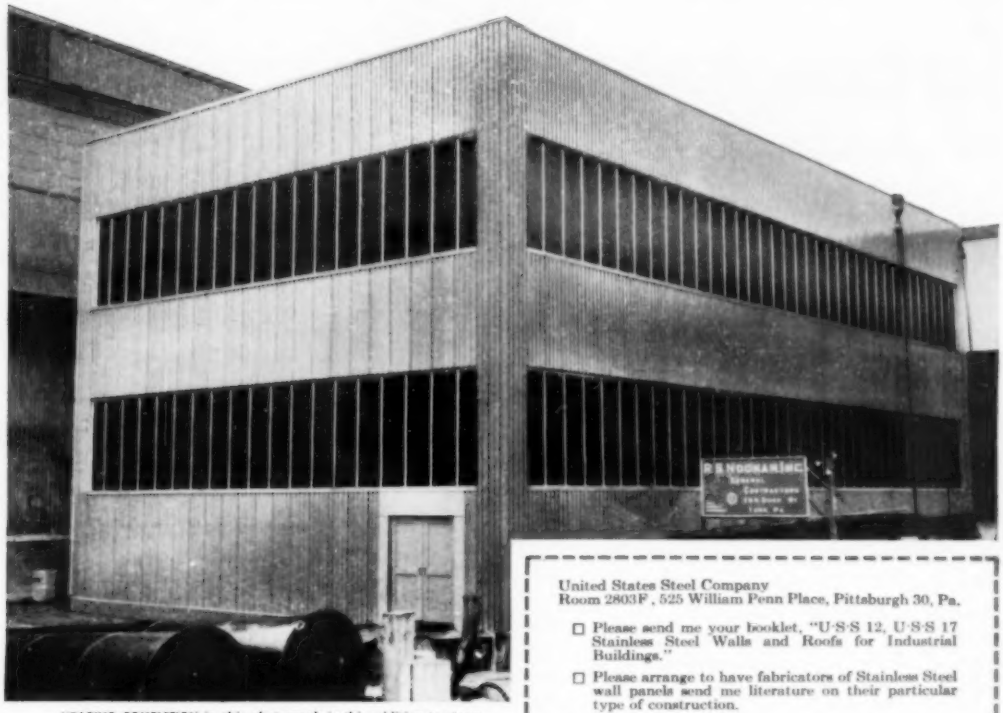
Best news of all is that U·S·S 17 Stainless Steel for walls is available *now* for use on your current projects. You can obtain it without CMP tickets for use on any authorized construction.

No matter what type of building you are designing—factories, mills, warehouses, power plants, service or office buildings—U·S·S 17 Stainless Steel deserves your careful consideration. If you'd like additional information, write for our book, using the coupon below. Remember, United States Steel only produces the Stainless sheet and strip from which panels of this type are made; the panels themselves are fabricated by a number of our customers whose names will be sent you on request.

LONG-LASTING, INSULATED BUILDING PANELS

U·S·S 17 *(Type 430)* Stainless Steel

installed in 11 working days



NEARING COMPLETION in this photograph is this addition to steam generating facilities at Olmsted Air Force Base, Middletown, Pa. The 86½' by 40' building is sided with panels of U·S·S 17 Stainless Steel. Architect-Engineer: Gannett, Fleming, Corddry & Carpenter, Inc., Harrisburg, Pa. General contractor: R. S. Noonan, Inc., York, Pa. Stainless Steel panels fabricated and erected by H. H. Robertson Co., Pittsburgh, Pa.

United States Steel Company
Room 2803F, 525 William Penn Place, Pittsburgh 30, Pa.

☐ Please send me your booklet, "U·S·S 12, U·S·S 17 Stainless Steel Walls and Roofs for Industrial Buildings."

☐ Please arrange to have fabricators of Stainless Steel wall panels send me literature on their particular type of construction.

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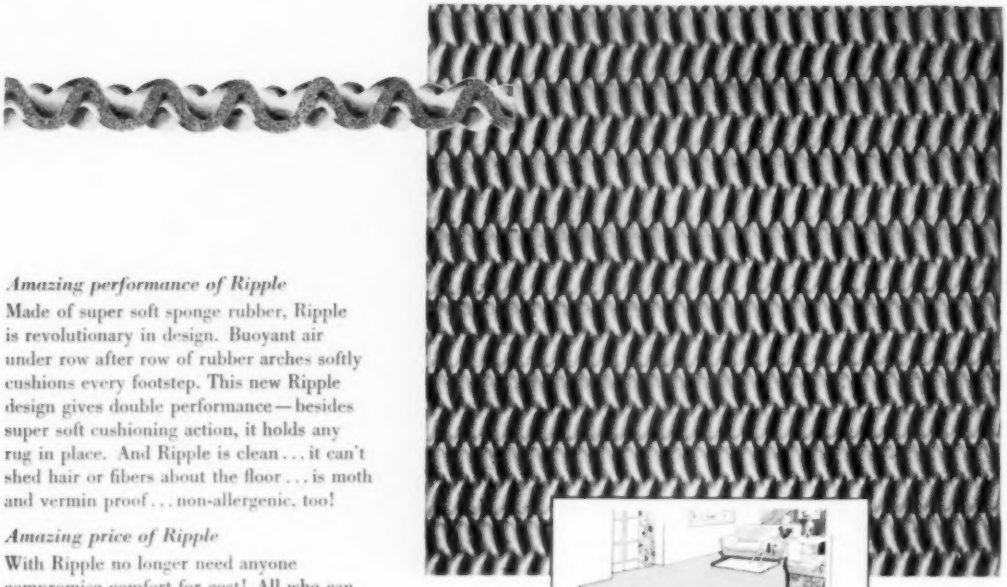

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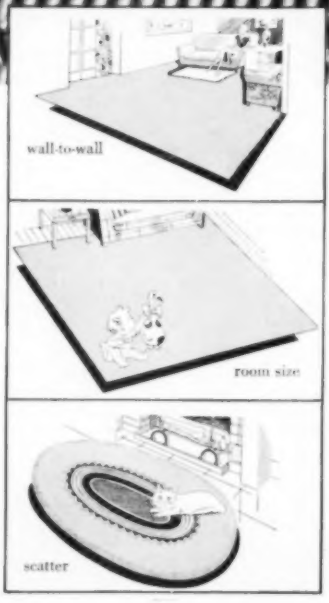

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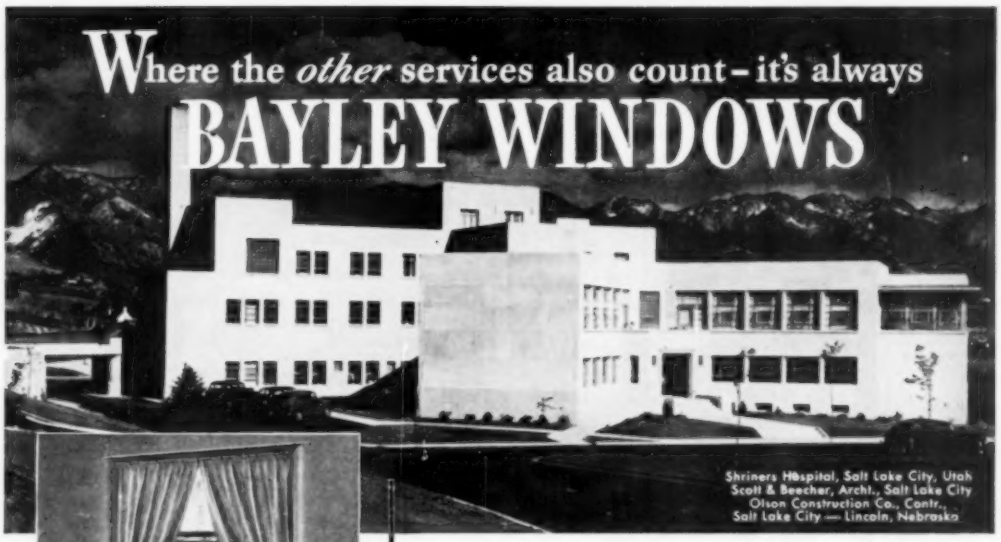

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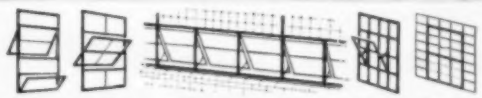

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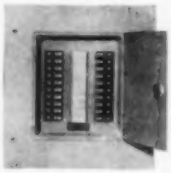

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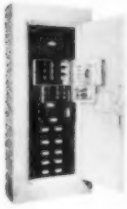

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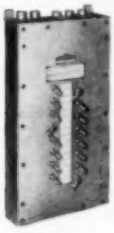

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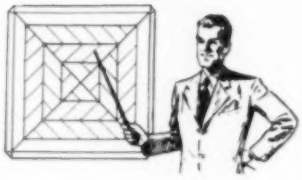

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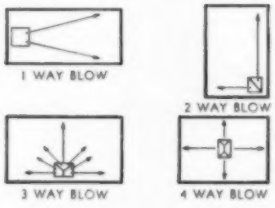

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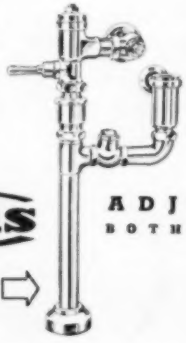

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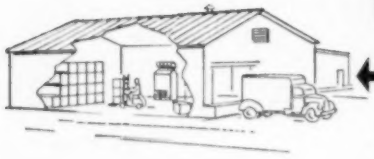
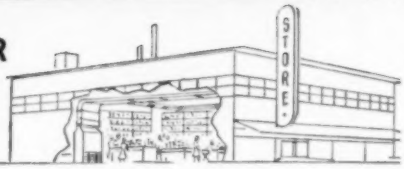
DRAVO *Counterflo*

A POSITIVE *SOLUTION* FOR



1. INDUSTRIAL CENTER

Where space is limited or roof heat losses are unusually high, Dravo Heaters require minimum space . . . no expensive boiler plant; roof heat losses low due to controlled recirculation of air; can be used with or without ducts.

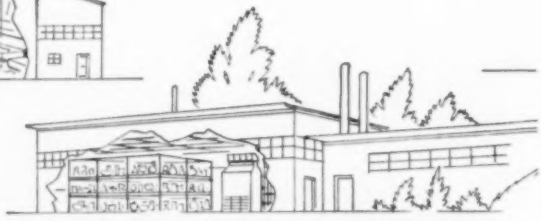


3. SUPERMARKET

In heating, ventilating and air conditioning large areas, Dravo Heaters can tie in with air conditioning system by using some duct work, provide year-'round comfort.

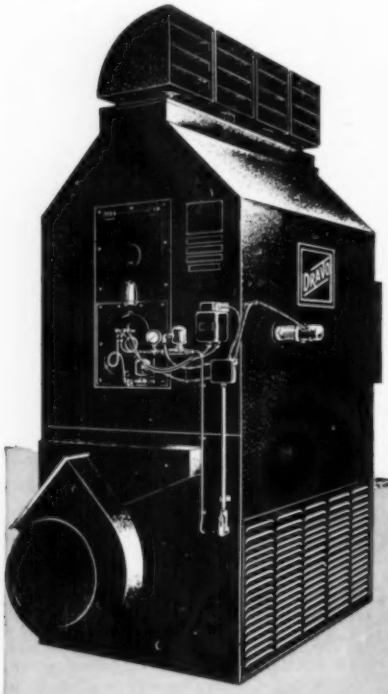
2. FOUNDRY

Negative pressures, caused by exhausting foul air, are balanced by tempering fresh outside air with Dravo Heaters. Atmosphere is kept healthy, constant temperatures are maintained, worker efficiency improves.



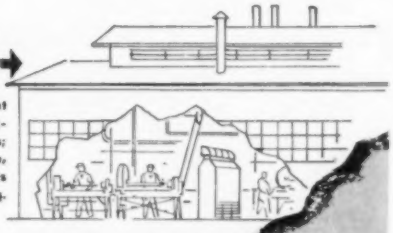
4. MEDIUM-TEMPERATURE CURING

In controlling temperatures and air moisture content in process manufacturing, Dravo Heaters have automatic controls, maintain constant temperature, can recirculate air to control curing process.



5. MACHINE SHOP

For comfort heating large plant areas, Dravo Heaters have maximum air throw in all directions; can be turned off during idle time, warm up quickly, keep fuel costs low, can heat 4,000 to 20,000 sq. ft. area, no duct work required.



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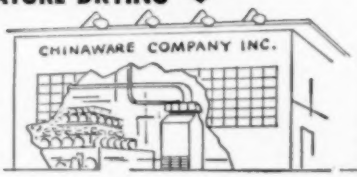
ACCEPTANCE BY FACTORY MUTUAL ENGINEERING DIVISION OF DRAVO STANDARDIZED SAFETY CONTROL CIRCUIT.

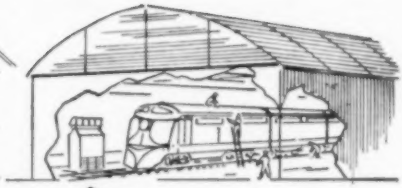
HEATERS.....

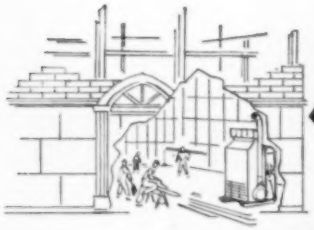
8 DIFFERENT HEATING PROBLEMS!

6. MEDIUM-TEMPERATURE DRYING

In removing moisture in drying operations, Dravo Heaters provide low-cost heat at even, predetermined temperatures; are automatic in operation, can use gas or oil, are readily converted.







7. TEMPORARY HEATING

For building construction projects where ground temperature must be kept above freezing, Dravo Heaters are quickly installed, easily moved to any location; can be later used as permanent heating plant for the new building.

8. RAILROAD REPAIR SHOP

In providing ample heat for repairmen in large buildings, Dravo Heaters keep heat where it's needed . . . at the working level; directional nozzles easily adjusted to suit conditions; heaters can be mounted on walls or hung from ceiling in any position.

DRAVO *Counterflo* HEATERS CAN SOLVE SIMILAR PROBLEMS IN THESE INSTALLATIONS, TOO

Comfort Heating and Ventilating in schools, churches, auditoriums, laundries, restaurants, garages, factories.

Process Drying of wood, rubber and paint; rug drying; auto laundry operations.

Process Curing of concrete pipe linings, farm crops, paper and fibres.

DRAVO HEATERS OFFER YOU . . .

- Low initial cost—users report 30% to 60% savings.
- Easy installation—electrical, fuel and exhaust connections are only requirements.
- Flexibility—where floor space is limited, can be wall-hung or suspended from trusses.
- Low fuel cost—direct-fired . . . burn gas or oil . . . units readily converted.
- Automatic operation—on-off or modulating controls.
- Long service life—stainless steel combustion chamber eliminates refractory lining . . . low maintenance costs.

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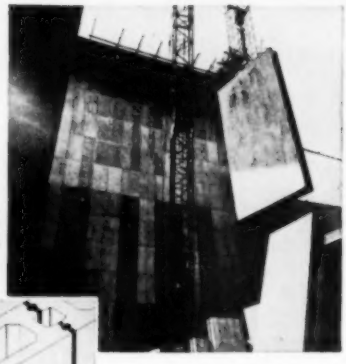
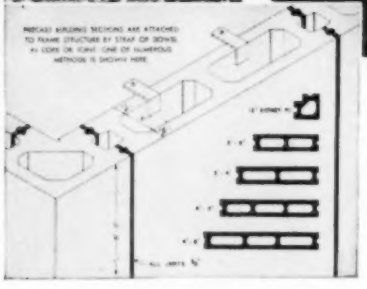
48 Sq. Ft. of Finished Wall Erected in 8 Minutes

Wall panels are quickly erected by crane. Scaffold and hoist in photo above are for other purposes.





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Power House Addition
South Amboy, N.J.

Engineers and General Contractor:
BURNS & ROE, INC., New York

Wall Panels Manufactured and Installed by:
PRECAST BUILDING SECTIONS, INC.
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● Consider the advantages of precast wall panels: A complete wall system, quickly erected, in story-high sections . . . insulating, fire-safe . . . joints equal in strength and watertightness to the panels themselves . . . a wall requiring no finish.

Precast Building Sections were used for 8,000 sq. ft. of wall, for this 140-ft.-high Power-House addition . . . an all-purpose, one operation wall system . . . each 48-sq.-ft. panel lifted into place in 8 minutes . . . a finished wall as attractive as high quality cut stone.

Panels are produced in a range of sizes, for flexibility in architectural treatment and economy in construction. Lightweight aggregate, hollow-core design, and strong, dense concrete assure high insulating value and utmost fire-safety. Walls erected in 1912 are in first-class condition today.

Units are mass-produced by assembly-line methods, under rigid quality control. Air-entrained 'INCOR'* 24-HOUR CEMENT concrete is used: (1) extra plasticity expedites filling of 1½" space in heavy steel forms; (2) dependable high early strength permits stripping after initial 40 minutes' high-temperature curing . . . 6 to 8 daily uses of each form.

Tomorrow's wall today . . . shop-produced, flexible, ready-to-assemble . . . uniform, attractive appearance . . . result of engineering imagination and production know-how, with an assist from America's FIRST high-early-strength portland cement.

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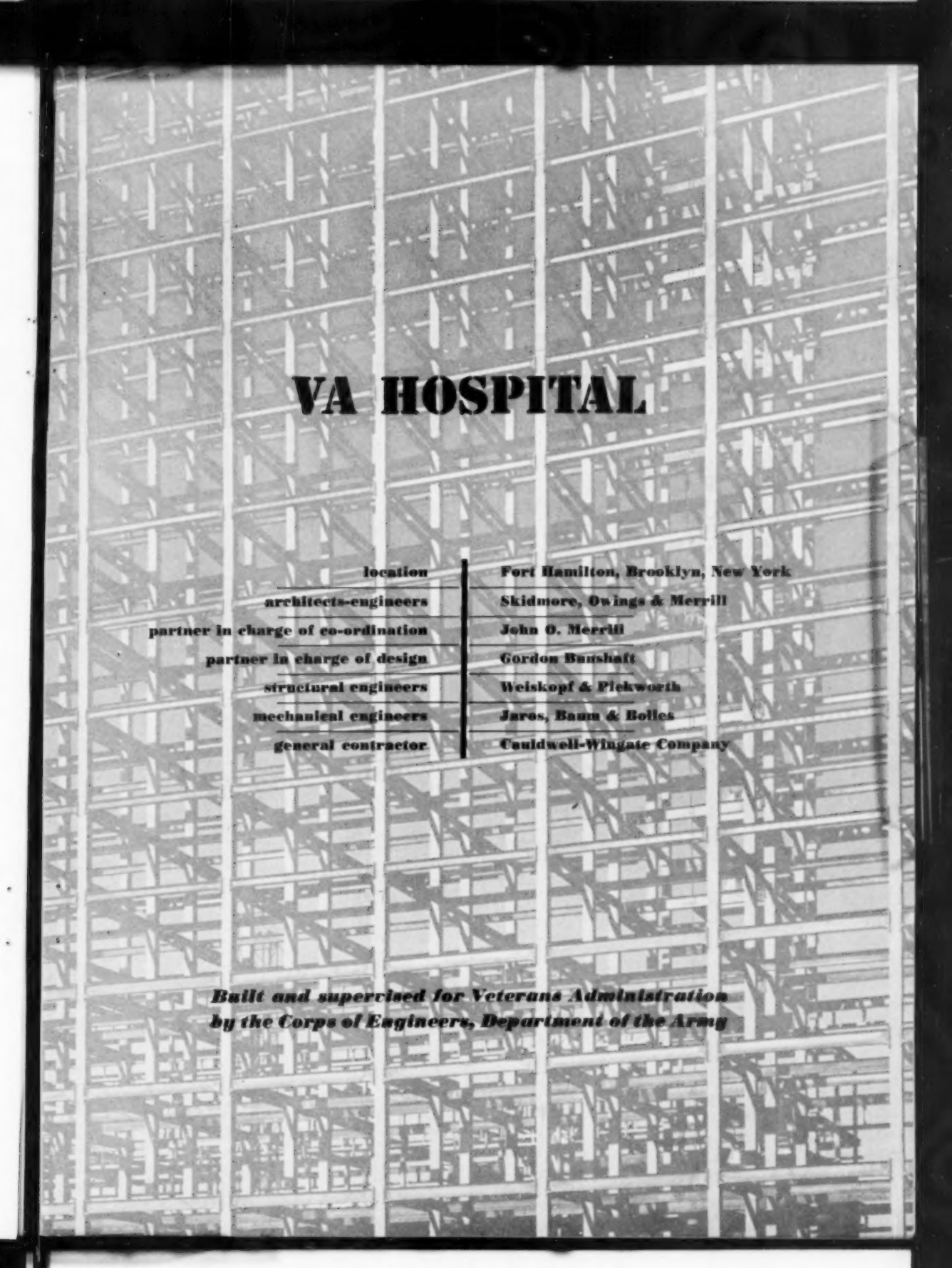
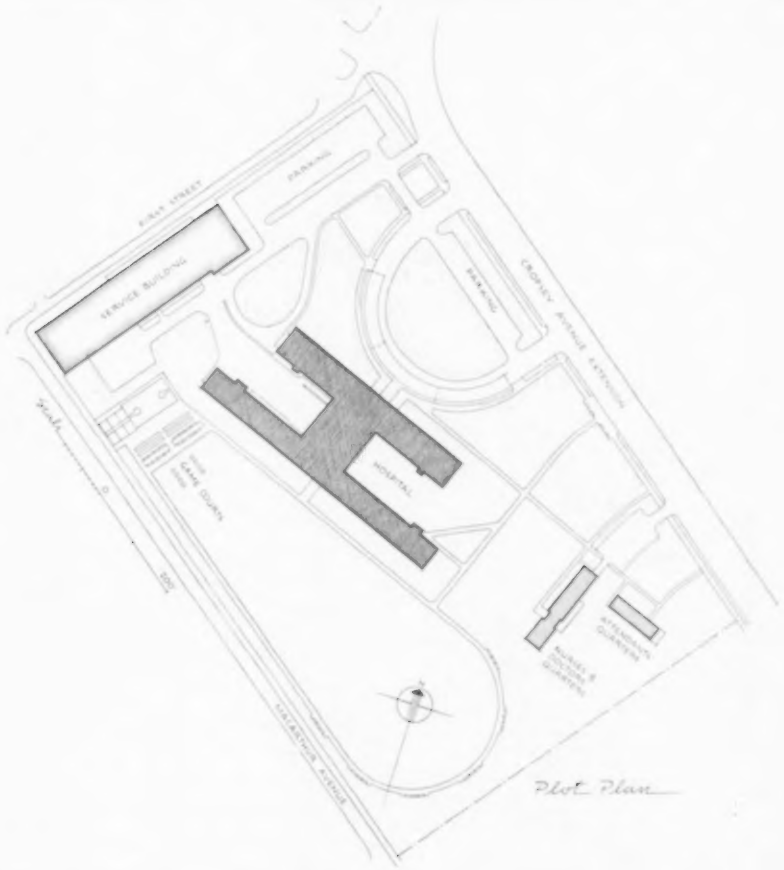


VA HOSPITAL

location	Fort Hamilton, Brooklyn, New York
architects-engineers	Skidmore, Owings & Merrill
partner in charge of co-ordination	John O. Merrill
partner in charge of design	Gordon Bunshaft
structural engineers	Weiskopf & Pickworth
mechanical engineers	Jaros, Baum & Bolles
general contractor	Cauldwell-Wingate Company

Built and supervised for Veterans Administration by the Corps of Engineers, Department of the Army



VA Hospital: Brooklyn, New York

In the first phase of the urgent postwar program of design and construction of veterans' hospitals, several commissions fortunately went to top-ranking private architects. During this period, distinct contributions were made not alone to the provision of proper health-care facilities for veterans, but to the field of hospital design in general.

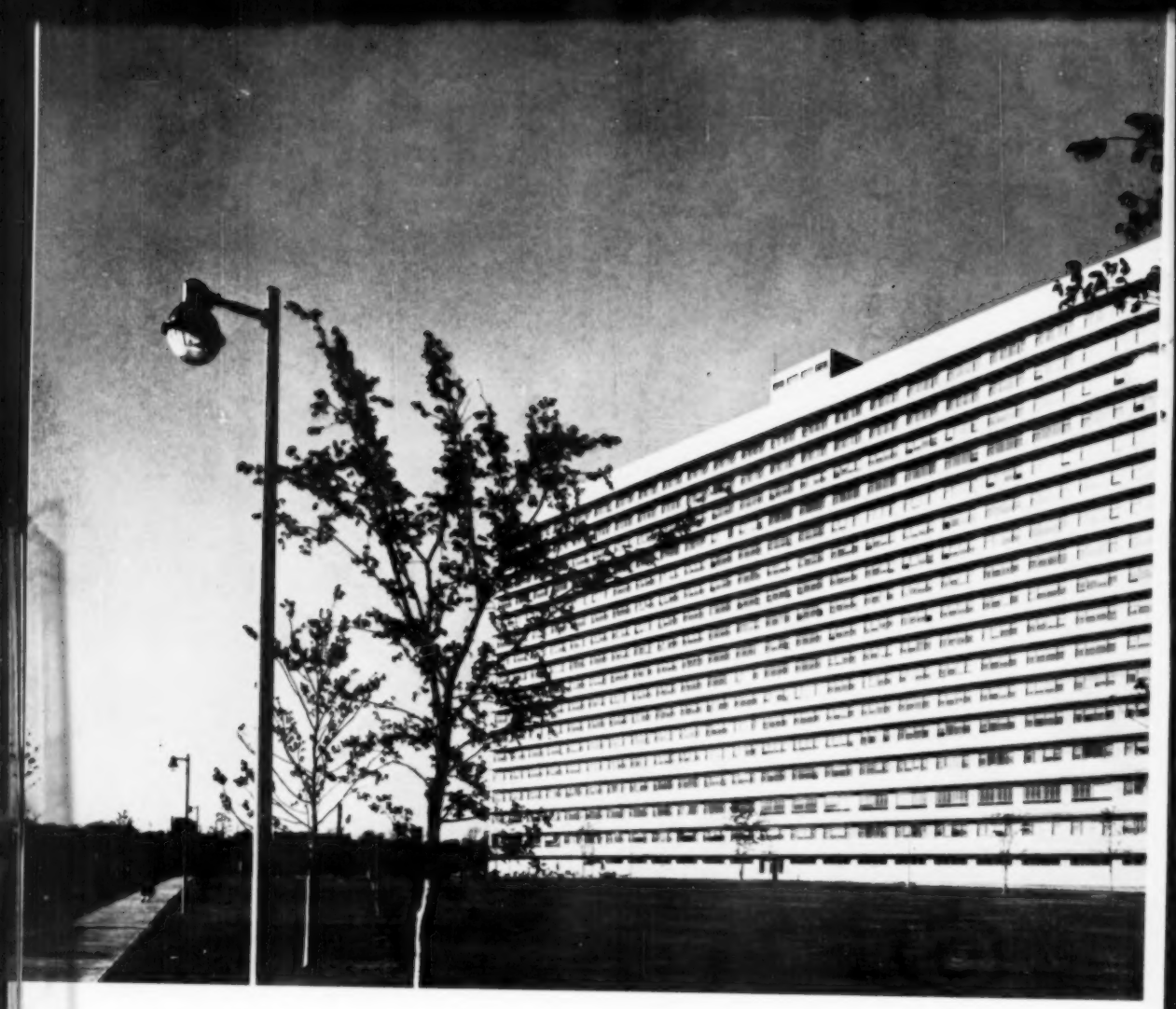
One of the first—and, in our opinion, one of the best—of these units built by the Corps of Engineers for the Veterans Administration is this giant, 1000-bed general hospital adjoining Fort Hamilton, in Brooklyn, New York. In addition to all the standard medical facilities, the hospital includes fully equipped physical and occupational therapy departments, arts and crafts rooms, and various recreational-cultural areas such as a canteen, patients' library, a P-X, game rooms, etc. The two top floors of the 17-story nursing wing are given over to patients requiring psychiatric care and treatment; neurological units occupy the two floors below.

The architects took bold advantage of the magnificent, 17-acre site that, toward the south, overlooks The Narrows, the lower entrance to New York Harbor through which the great transoceanic liners pass. An early decision was to align the tall, 490-foot-long block of nursing units so that as many bedrooms and wards as possible would have southern windows and look out over the widespread view of the water and its ocean traffic.

As the plot plan shows, this nursing-unit wing forms the longer leg of an H-shape plan, the shorter and lower (6 stories) leg on the north containing the outpatient department, public entrances, therapy departments, laboratories, and operating suites. The connecting link (which extends the full height) constitutes the mechanical core of elevators and stairways, around which are organized the lobbies, records rooms, and various specialized offices. Among the adjunct structures are a laundry-powerhouse (to the west) and a nurses' residence, attendants' building, and some staff housing, at the northeast corner of the extensive site.

The original design, which had to be curtailed somewhat to meet budgetary requirements, included a low structure connecting toward the south, in which an auditorium, cafeteria, and chapel were planned. These facilities were later incorporated within the main building.

Structurally, the building consists of a rationalized steel frame, in which the layout is entirely symmetrical and there are no offset columns, with floors and roof of concrete-arch construction. The exterior walls are of light gray brick, with cinder-block backup.



Soil investigation at the site revealed a layer of silt and fine sand with little supporting power for a depth of roughly 20 feet. Below this, the sand was firmer and coarser and capable of sustaining load. Ground water occurred about 15 feet below grade. Driven piles proved to be the most economical method of transferring the load to the bearing stratum. Several types of cast-in-place concrete piles, capable of supporting 30 tons, were specified.

The size and shape of the main block —490 feet long, 46 feet wide and 17 stories in height—required exceptional analysis on the part of the structural engineers. "It was important," they point out, "to select an economical type of floor, and economy involved not only the cost of the floor itself but also the depth occupied between the ceiling and finished floor above."

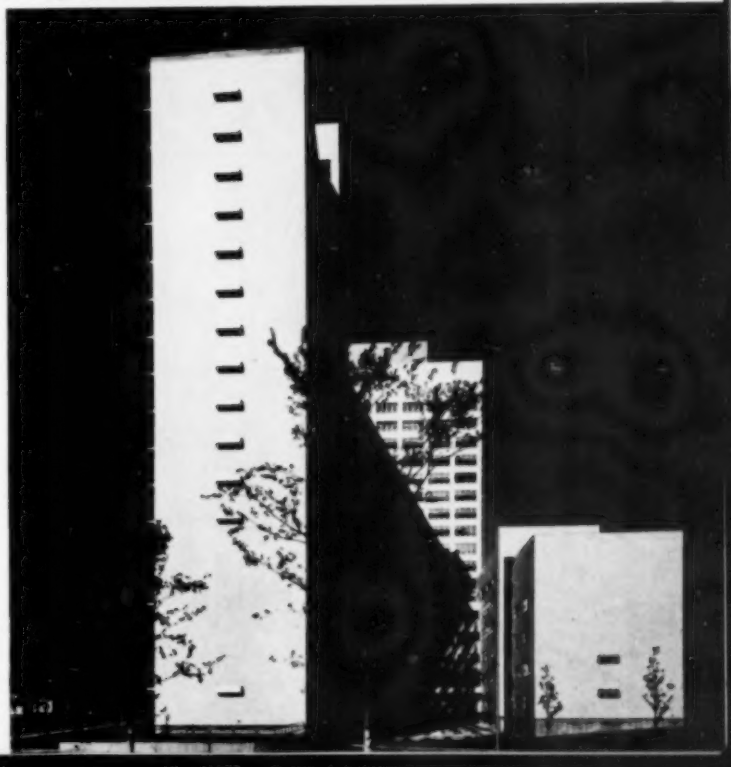
Too great a depth would obviously have increased the height of the building, involving greater cubage and the additional costs of walls, partitions, and all vertical elements, such as elevators, piping, duct work, etc. Another important structural-design factor that had to be considered for such a narrow building was the horizontal force from wind. After a number of structural systems were studied, a system employing a two-way ribbed-concrete floor panel was selected.

"The ribs were formed by precast slag-blocks" the engineers report, "and thus the load was carried to girders on four sides of each panel. The load was thus shared by the girders extending along the corridor and the spandrel girders (east and west) with the transverse girders (north and south). This proved a happy solution in reducing girder depths." The girders along the corridors could not be very deep because of ducts over the corridor ceilings which turned under them into the rooms at either side. The transverse girders had to be shallow, since they determined the elevation of the ceilings. "Distribution of the load to both systems of girders enabled all to be as shallow as possible," the engineers concluded.

In the typical floor, the girders along

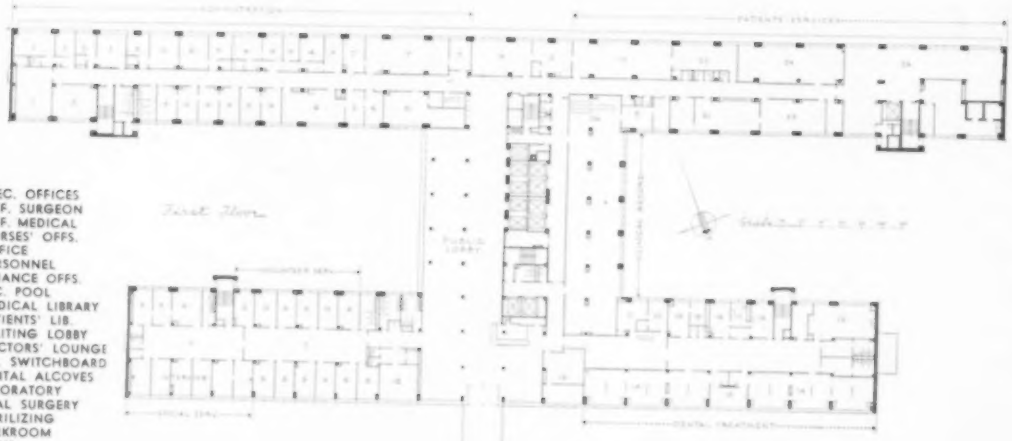
VA Hospital: Brooklyn, New York

The entire complex (immediately below) *includes nurses' and staff residences* (extreme left), *the main hospital block, with a six-story wing on the north (a two-level ramped entrance keeps patients' and visitor traffic separate); and* (right) *the laundry-powerhouse building. Nursing units occupy the tall southern block* (acrosspage). *Seen from the east* (bottom page), *the three main functional divisions are clearly defined.* Photos: Martin Helfer



the corridors were generally 12″ WF beams. The transverse girders were made of double channels all the way across the building. The double channels straddled the columns and were fastened to them by substantial wind connections. These channels were 12″ deep in upper floors, 13″ in the eighth and seventh floors, and 15″ in the sixth floor and below.

The sunshade eyebrows above the bands of southern windows in the main hospital block are of reinforced concrete. Double-hung, casement, and projected sash are all used, and glazing includes plate, window, and obscure glass as well as double-insulating glazing (the latter, mainly on the north elevation of the north wing, as fixed glazing for the operating rooms).



1 EXEC. OFFICES
2 CHF. SURGEON
3 CHF. MEDICAL
4 NURSES' OFFS.
5 OFFICE
6 PERSONNEL
7 FINANCE OFFS.
8 SEC. POOL
9 MEDICAL LIBRARY
10 PATIENTS' LIB.
11 WAITING LOBBY
12 DOCTORS' LOUNGE
13 TEL. SWITCHBOARD
14 DENTAL ALCOVES
15 LABORATORY
16 ORAL SURGERY
17 STERILIZING
18 DARKROOM
19 X-RAY
20 CHIEF DENTIST
21 POST OFFICE
22 MESSAGE CENTER
23 CANTEEN
24 RETAIL STORE
25 SOUNDPROOF RM.
26 PNEU. TUBE STA.

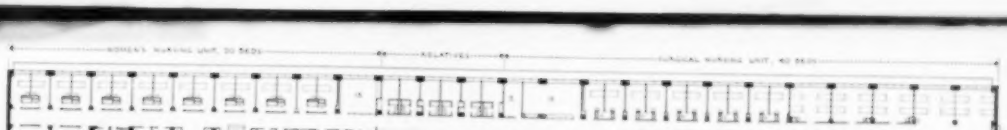
The two-level entrance—one for patients, the other for visitors—is made possible by the dramatic curved ramp at the front of the hospital that carries both automobile and foot traffic (photos above and acrosspage). *The visitors' lobby* (right) *has a terrazzo floor, columns sheathed in stainless steel, and end walls surfaced with marble.*

Photos: Torkel Korling; Martin Helfer

VA Hospital: Brooklyn, New York

A broad curved ramp, supported on a single, central arc of columns, provides two levels of access to the hospital on the north, entrance front. The lower level entrance is for patients, whether hospitalized or outpatients; the upper level is for visitors chiefly. Further separation derives from the fact that all outpatient facilities are located in the six-story block of the hospital, and separate elevators are provided for outpatients' use. At basement level (*plan not shown*) is the central supply and storage space, mechanical equipment, orthopedic brace rooms, and morgue.

The adjacent power plant supplies steam for heating, water heating, sterilizing, etc. The basic heating system consists of radiators or convectors, controlled by outside zone thermostats. Some areas —notably the psychiatric floors—utilize a radiant panel heating system. Electrostatic air filters serve both the ventilating system (tempered outside air distributed to rooms from corridor-ceiling ducts and exhausted by fans) and areas that are fully air-conditioned—operating rooms, recovery areas, allergy rooms, and the like. In the isolation nursing unit and in certain other areas, the air is further treated by germicidal devices that destroy all but a fragment of air-borne bacteria. Incandescent fixtures are the rule for artificial lighting, although fluorescent units are also employed, in lobbies, corridors, and various specialized areas.



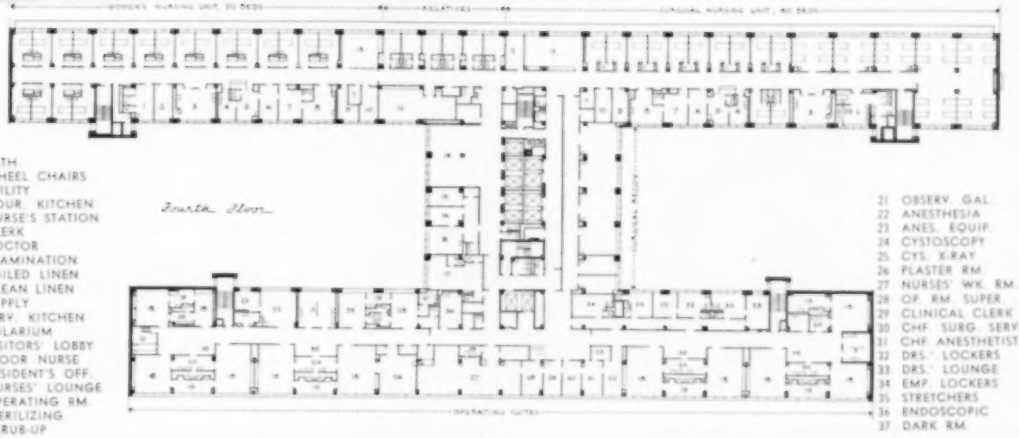
Looking from the west end of the first-floor public lobby (above) one sees through to the corridor leading to the social service and volunteer service offices. The elevator core of this lobby (left) is paneled with rough-surfaced porcelain enameled steel that symbolizes the mechanical nature of the area it encloses. Photos: Martin Helfer; Torkel Korling

VA Hospital: Brooklyn, New York

The first floor includes the main public entrance, social-service offices, and dental unit; recreation facilities and administrative offices. The second floor is chiefly given over (in the forward block) to therapy departments and (in the rear) to food service. On the fourth floor are the operating suites, recovery unit, surgical nursing wing, and women's nursing unit, with a few rooms for use of relatives.

The third floor (*not shown*) also occupies the entire floor area. Here, the south wing is divided between an isolation nursing unit and quarters for residents. The connecting link, in addition to the mechanical core, has five double rooms, and (on the west side) experimental animal cages. The forward unit houses X-ray therapy; X-ray radiography, and hospital laboratories.

Typical upper-floor finishes are asphalt-tile flooring; acoustic-plaster ceilings in lobbies and corridors, with furred-plaster ceilings elsewhere; plaster walls, except for glazed structural tile in the lobbies and corridors and ceramic tile in toilets, utility rooms, operating rooms, etc. On the lower lobby floors, the walls around the elevator core are surfaced with a rough-finish porcelain-enameled steel sheet.



1 BATH
2 WHEEL CHAIRS
3 UTILITY
4 NOUR. KITCHEN
5 NURSE'S STATION
6 CLERK
7 DOCTOR
8 EXAMINATION
9 SOILED LINEN
10 CLEAN LINEN
11 SUPPLY
12 SERV. KITCHEN
13 SOLARIUM
14 VISITORS' LOBBY
15 FLOOR NURSE
16 RESIDENT'S OFF.
17 NURSES' LOUNGE
18 OPERATING RM.
19 STERILIZING
20 SCRUB-UP

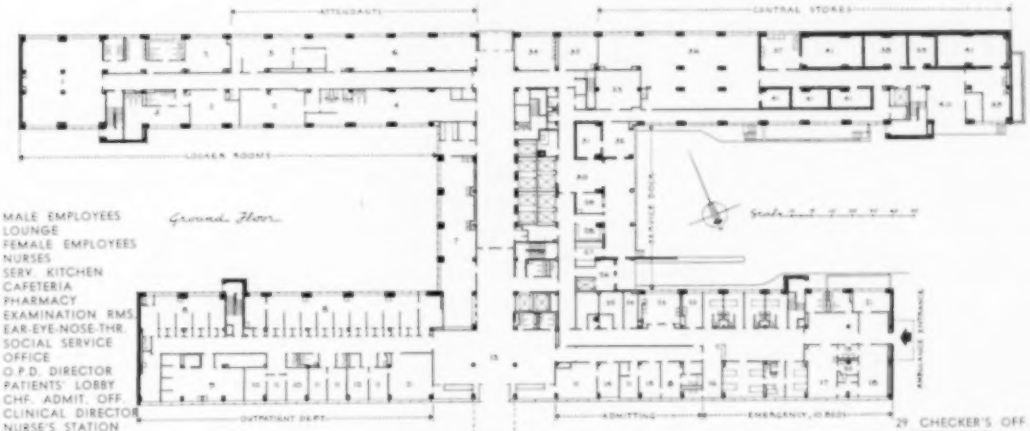
Fourth Floor

21 OBSERV. GAL.
22 ANESTHESIA
23 ANES. EQUIP.
24 CYSTOSCOPY
25 CYS. X-RAY
26 PLASTER RM.
27 NURSES' WK. RM.
28 OP. RM. SUPER.
29 CLINICAL CLERK
30 CHF. SURG. SERV.
31 CHF. ANESTHETIST
32 DRS.' LOCKERS
33 DRS.' LOUNGE
34 EMP. LOCKERS
35 STRETCHERS
36 ENDOSCOPIC
37 DARK RM.

1 SINGLE ROOMS
2 DOUBLE ROOMS
3 STORAGE
4 RECREATION HALL
5 RADIO STUDIO
6 EXECUTIVE OFF.
7 EXAMINATION
8 CLASSROOM
9 OFFICE
10 RADIO REPAIR
11 METAL-JEWELRY
12 PRECISION METAL
13 SILK SCREEN
14 WEAVING-LEATHER
15 PREP. ROOM

Ground Floor

16 WOOD-PLASTICS
17 PHOTOGRAPHY
18 PRINTING-BOOKS
19 CERAMICS
20 UPPER PART LOBBY
21 ASSEMBLY RM.
22 HYDROTHERAPY
23 ELECTROTHERAPY
24 DRESSING RM.
25 TREATMENT RMS.
26 CORR. EXERCISE
27 LOCKERS
28 DIET KITCHEN
29 BAKERY
30 FOOD REFRIG.



1 MALE EMPLOYEES
2 LOUNGE
3 FEMALE EMPLOYEES
4 NURSES
5 SERV. KITCHEN
6 CAFETERIA
7 PHARMACY
8 EXAMINATION RMS.
9 EAR-EYE-NOSE-THR.
10 SOCIAL SERVICE
11 OFFICE
12 O.P.D. DIRECTOR
13 PATIENTS' LOBBY
14 CHF. ADMIT. OFF.
15 CLINICAL DIRECTOR
16 NURSE'S STATION
17 EMERGENCY OFFR.
18 EMERGENCY EXAM.
19 SCRUB-UP
20 STERILIZING
21 SUPPLY
22 NOUR. KITCHEN
23 UTILITY
24 SOILED LINEN
25 CLEAN LINEN
26 MORGUE VESTIBULE
27 LIQUID SOAP
28 OXYGEN

Ground Floor

29 CHECKER'S OFF.
30 RECEIVING
31 GARBAGE
32 CAN ROOM
33 TRASH
34 BARBER SHOP
35 TAILOR
36 DRY SUBSISTENCE
37 VEGETABLE PREP.
38 DAIRY REFRIG.
39 MEAT
40 FOOD RECEIVING
41 REFRIGERATION

VA Hospital: Brooklyn, New York

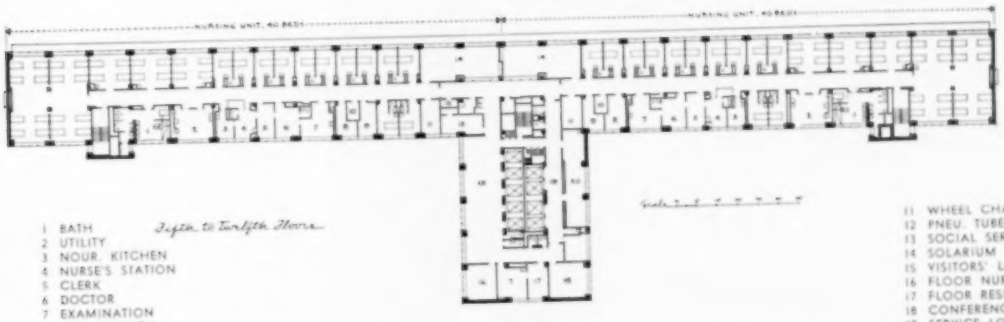
The typical upper-floor elevator lobby (left) *has walls of glazed structural block, asphalt-tile floor, and acoustic-plaster ceiling. A nurses' station* (below, left) *occurs at the center of each of the paired nursing units on the typical floor. Clean simplicity marks the typical patient's room* (below, right).

The lower plan on the facing page is the typical nursing-unit floor, with 40 beds in each of the nursing units that are almost symmetrically arranged on either side of the central solariums, along the southern wall. The thirteenth and fourteenth floors (not shown), are used by neurological patients, and are practically identical, except that two 8-bedroom wards occur at the ends in place of the 16-bed wards of the typical floor. The fifteenth floor, also not shown, is for quiet psychiatric patients.

An audio-visual system is used for paging doctors; a light and buzzer equipment constitutes the nurses' call system. From the medical-records room on the first floor, a 4-inch pneumatic tube system provides direct, speedy communication with all nursing floors, treatment areas, and some offices; a bank of dumbwaiters serves all floor kitchens, which are located on the west wall of the central block. Other special equipments include a central chilled drinking-water system; radio outlets beside every bed; telephone booths for ambulant or wheel-chair patients, and a portable plug-in phone unit that may be wheeled to the patient's bedside.

1 HYDROTHERAPIST
2 BATH
3 ISOLATION UNIT *Sixteenth Floor*
PSYCHIATRIC DISTURBED, 40 BEDS
4 KITCHEN
5 UTILITY
6 DRESSING RM.
7 CLOTHES
8 RECOVERY RM.
9 SHOCK
10 EXAMINATION
11 DOCTOR
12 CLINICAL CLERK
13 WAITING

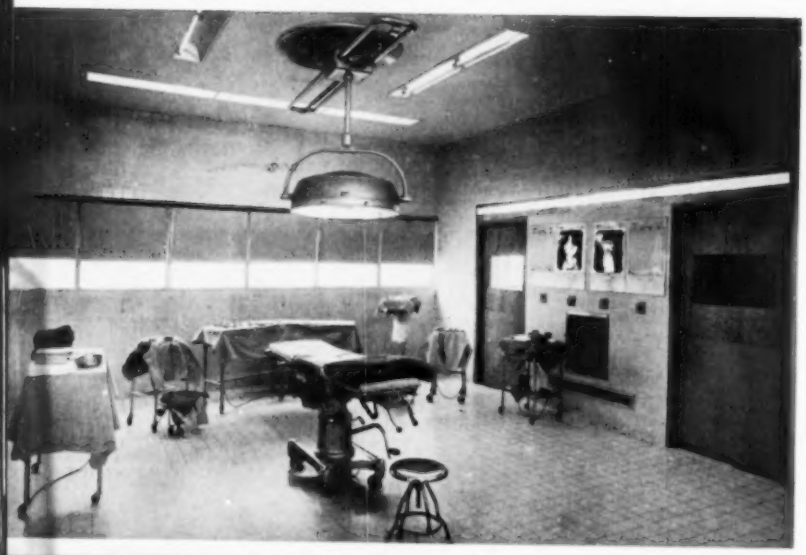
14 SOCIAL SERVICE
15 CHF. PSYCH. NURSE
16 SECRETARY
17 CHF. PSYCHIATRIST
18 PSYCHOLOGY
19 CONFERENCE
20 RECORDS
21 DINING ROOM
22 SOILED LINEN
23 CLEAN LINEN
24 SUPPLY
25 NURSE'S STATION
26 BARBER SHOP



1 BATH *Fifth to Twelfth Floors*
2 UTILITY
3 NOUR. KITCHEN
4 NURSE'S STATION
5 CLERK
6 DOCTOR
7 EXAMINATION
8 SOILED LINEN
9 CLEAN LINEN
10 SUPPLY

11 WHEEL CHAIRS
12 PNEU. TUBE STA.
13 SOCIAL SERVICE
14 SOLARIUM
15 VISITORS' LOBBY
16 FLOOR NURSE
17 FLOOR RESIDENT
18 CONFERENCE
19 SERVICE LOBBY
20 KITCHEN

A 16-bed ward (below, left) *occurs at either end of a typical nursing-unit floor. At the center of the floors are the solariums* (below, right) *with their south-facing windows.* Photos: Martin Helfer



Each 10-bed nursing unit has its own utility room (top photo), with ceramic-tile floor and walls. The typical operating room (center) has ceramic-tile walls, terrazzo floor, and double-insulating glazing. Mounted flush on side walls are bands of germicidal lamps. Also on the fourth floor is the surgical recovery unit (bottom). Photos: Martin Heller

VA Hospital: Brooklyn, New York

Foundation: concrete piles—Raymond Concrete Pile Company. **Frame:** structural steel—Bethlehem Steel Company. **Floors, roof:** concrete-arch system—Republic Fireproofing Company. Lehigh Portland Cement Company, Universal Atlas Cement Company, Hercules Cement Corporation. **Wall surfacing:** exterior: brick and cinder-block back-up; interior: plaster, rest rooms, toilets, ceramic tile—Mosaic Tile Company. **Floor surfacing:** asphalt tile—Mastic Tile Corporation of America. **Ceiling surfacing:** plaster and acoustical plaster—U.S. Gypsum Company. **Roof surfacing:** 5-ply built-up roofing, waterproofing—Ruberoid Company. **Partitions:** cinder block—National Brick Corporation; structural facing units—Arkatex Ceramic Corporation. **Windows:** sash: double-hung—S. H. Pomeroy Company, Incorporated; casement and projected—Truscon Steel Company; glass: plate—Franklin Glass Corporation; window—American Window Glass Company; double-glazing and obscure—Libbey-Owens-Ford Glass Company. **Doors:** wood interior—Hardwood Products Corporation; hollow metal overhead and elevator—Overhead Door Company, Aetna Steel Products Corporation; tempered-glass entrance—Pittsburgh Plate Glass Company. **Hardware:** surface-type door closers, deadlocks and cylinder locksets—Norwalk Lock Company; concealed overhead and floor type door closers—Shelby Metal Products Company; hospital-type hinges and regular butts—McKinney Manufacturing Company. **Paint:** M. J. Merkin Paint Company.

equipment

Elevators: high- and low-speed passenger—Westinghouse Electric Corporation; high- and low-speed service—Westinghouse Electric Corporation, John W. Kiesling & Son, Incorporated; cabs—Globe-Van Doorn Corporation. **Lighting fixtures:** Simes Company, Condi-Lite Corporation, Leader Electric Company, McPhilbin Manufacturing Company, Westinghouse Electric Corporation, Swivelier Company, Rembrandt Lamp Corporation. **Electrical distribution:** service-entrance switch, panelboards—Standard Switchboard Company; conduit—Youngstown Sheet & Tube Company, Spang-Chalfant Division; the wiring devices—Appleton Electric Company, Russell & Stoll Company, Bryant Electric Company, Harvey Hubbell, Incorporated. **Plumbing and sanitation:** water closets, tubs, lavatories—Crane Company; toilet seats—C. F. Church Manufacturing Company; water storage heater—Patterson-Kelley Company; flush valves—Sloan Valve Company; incinerator—Washburn & Granger, Incorporated; copper, wrought iron and steel pipe—Bridgeport Brass Company, A. M. Byers Company, Bethlehem Steel Company; sprinklers—H. G. Vogel Company; shower controls—Leonard Valve Company; medicine cabinets—Parker Steel Products, Inc. **Heating:** steam and radiant type; boilers—Titusville Tank & Construction Company; radiators—National Radiator Company; steel and wrought iron pipe—Bethlehem Steel Company, A. M. Byers Company; unit heaters—U.S. Air Conditioning Corporation; controls—Minneapolis-Honeywell Regulator Company. **Air conditioning:** Carrier Corporation; diffusers and grilles—Air Devices, Incorporated, Anemostat Corporation of America, Tuttle & Bailey, Incorporated, J. W. McGuire Company; blowers—U.S. Air Conditioning Corporation; filters—American Air Filter Company.

patient–nurse two-way communication

by L. T. Chandler*

In the past, nearly all hospitals have employed a lamp-signaling system from patient to nurse which, briefly, consists of a calling button with cord at the patient's bedside, a corridor lamp over each room entrance, a pilot lamp in the duty rooms, and a lamp annunciator in the nurses' station. When the patient presses his calling button, the lamps in the corridor, in the utility, and in the nurses' station (indicating the room calling) are lit and remain lit until the bedside calling button is reset. Most systems have a buzzer associated with the utility station and an annunciator which sounds momentarily when the button is pressed, so that the nurse will know that a room is calling even though she may not be facing the lamps at that moment. This system necessitates the nurse going to the bedside of the patient who is calling to determine his needs. Many times the nature of the need is such that the nurse must then go to the duty room or diet kitchen for additional equipment. It has been recognized recently that a communicating system could be made that would permit a two-way conversation between patient and nurse, not only saving the nursing staff many steps, but also giving the patient quicker service and assurance, through the direct conversation with the nurse, that the call will be attended.

The continued shortage of nurses justifies the use of any system which will help the nurse in caring for more patients without reducing nursing standards. A patient-and-nurse two-way communication system can contribute greatly to the efficiency of patient care; however, the following should be carefully considered by those responsible for specifying such a system.

* *Supervisor, Sales Engineering, Edwards Company, Inc., Norwalk, Conn.*

requirements of system

Certain desirable features of the straight visual system as used in the past should be retained. These are:

(a) The use of corridor dome lights over room entrances, since there will be cases—especially in the smaller hospitals—where the nurse leaves the nurses' station to answer a patient's call and in the interim misses another call. The corridor lamp will then warn the nurse to go to the second room before returning to her station.

(b) Easy removal of any patient's calling-button cord set from the system, so that the button and cord may be cleaned periodically or, if necessary, repaired or replaced after long usage. During removal, a means should be provided to cancel the automatic disconnect feature (described below) so that, when the new or cleaned cord set is installed, the automatic disconnect feature is immediately and automatically restored.

(c) The use of the automatic disconnect feature in the patient's calling button and cord: In the event the patient accidently pulls his calling-button cord from the wall or if the cord plug is not properly engaged in its receptacle, all lamps in the system associated with that room will be lit and the buzzers in the utility room and nurses' station will sound continuously, thereby signifying to the nurse which button is inoperative.

(d) The use of a pilot lamp and buzzer in each duty station and diet kitchen, or at any point where it is desirable to notify a nurse that there is a call registered at the master station. This is especially desirable for night duty where the nursing staff is reduced to a minimum and it is impossible to have a nurse continuously at the nurses' station (where the master station is located).

(e) Emergency calls from rooms where no microphone speaker is desired (toilets, bathrooms, and operating rooms) should register on a small lamp annunciator having a continuous sounding buzzer or bell in the nurses' station. It is usually not practical or economical to have these calls come in on the nurses' master station which handles all calls from the rooms equipped with microphone speakers.

All equipment should be designed to have a pleasing appearance, with minimum space requirements. This is especially true of the equipment used in the patient's rooms, since the combination speaker-microphone and calling cord receptacle must be mounted in a prominent place on the wall over the bed. The use of a single stainless-steel or sprayed satin-aluminum plate for this equipment is desirable from appearance and utility considerations, as it will match other electrical devices in the room, such as switch and duplex receptacle plates, etc. The patient's room station illustrated (*Figure 1*) is the same size as a standard 3-gang electrical face plate; measures only $6\frac{1}{4}$″ wide and $4\frac{1}{2}$″ high; and requires a standard 3-gang outlet box $2\frac{1}{4}$″ deep.

Since the equipment of the system requires 24-hour use because of its important function, all parts should be made of the highest quality material and extremely rugged. For example, the switches on the master station (*Figure 2*) receive hard usage and should be of a telephone-cam-key construction with silver contacts. These should be mounted in a vertical position so that dirt and dust cannot easily lodge there and cause faulty operation. The calling button should be shock resistant; its electrical cord should have quality insulation with an outside covering of neoprene to assure long life and to remove the danger of electrical shock to the patient.

The system should be designed for minimum servicing and where replacements will eventually be needed, such as in the tubes of the amplifier, accessibility to those parts must be of prime consideration, to keep maintenance costs as low as possible. To insure continuous operation, the amplifier which is the heart of the system should be designed so that it can be completely removed and a new one installed in a few minutes time.

The electrical circuit and its components should be as simple as possible and designed so that the average hospital maintenance personnel may make repairs and replacements, thereby keeping maintenance costs comparable with those of the lamp-signal systems used in the past. For example, the complicated locking or sequence-type relays and other devices, which are difficult to adjust and maintain, should not be used. As is true for other hospital electrical equipment, the system should be manufactured by a company that is reliable and has a record of experience in signaling, backed up by a nationwide service organization with readily available parts and personnel for assistance when needed.

The equipment should be so designed that it can be easily and economically installed, as the cost to the hospital is the installation plus the maintenance expense. Use of electrical back boxes, where possible, is desirable for this reason.

The system should be able to transmit clearly the faintest voice from the patient and also transmit the voice of the nurse to the patient so that it may be clearly understood. The volume of the conversation should be such that it is not carried into the corridors or, where speakers are used in wards, be annoying to the other patients. It is desirable to have a 3-level volume key on the master station which a nurse may immediately adjust to take care of very weak or very loud voices and thereby assure a proper volume at all times.

Privacy of conversation between patient and visitors, without eavesdropping by the nurse at the master station, is a question of debate by hospital authorities. Some contend that the nurse has neither the inclination nor the time to eavesdrop. However, the system which will be described later is so arranged that the patient must first operate his calling button in order that the nurse may hear his (or the visitor's) voice —unless a monitoring feature is desired.

Most hospitals agree that monitoring of the patient's speaker by the nurse has doubtful value. The monitoring feature would mean that the nurse could call or listen into any room from the master station without the patient pressing the button. Although claims have been made of the nurse being able to listen in for patients' abnormal breathing, this is debatable. Also, this feature may create a tendency to neglect established routine visits to the patient by the nurse. If monitoring is possible, it would void the privacy advantage unless a cutoff switch is placed at the room speaker. This would increase the costs and permit the possibility of the patient's neglecting to throw the switch back to its normal operating position.

Since the spaces assigned as nurses' stations are usually open to the corridor and not behind closed doors, the master station should be equipped with a handset so that the patient's needs are confidential to the nurse. This gives the patient more confidence in the use of this type system and is an advantage over the loud-speaker type of master station. Furthermore, a lower volume booster is required of the handset type, keeping distortion to a minimum and permitting greater sensitivity in picking up the patient's voice. The handset also permits the nurse to use a normal speaking voice and prevents background noises and conversations in the nurses' station from being broadcast into the patient's room.

It is very important that the system assures that all calls are indicated at the master station and that it is not possible for a call to be intentionally or accidentally canceled by the nurse at the master station. Resetting should therefore be done only at the patient's bedside. This is accomplished by having the calling button of the locking type, with a reset means in the button. The reset device in the button should not only be designed so that a patient can easily reset the button when requested to do so by the nurse, but also not be accidentally reset at any time.

In order to keep the system an efficient and easy-to-operate device, it must perform only the service for which it is intended. Trying to use or design the system for such functions as public address, intercom throughout the building, piping music, paging doctors, fire alarm, etc., destroys the efficiency of performing its prime purpose with generally disappointing results.

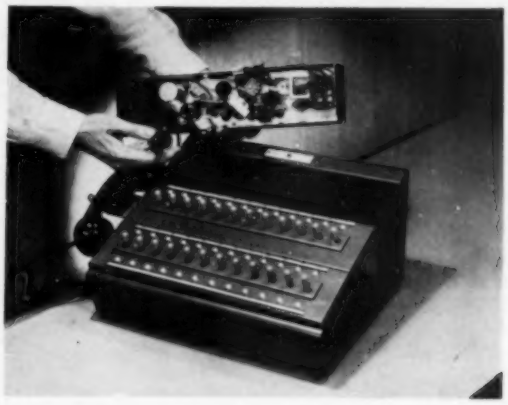
how the system operates

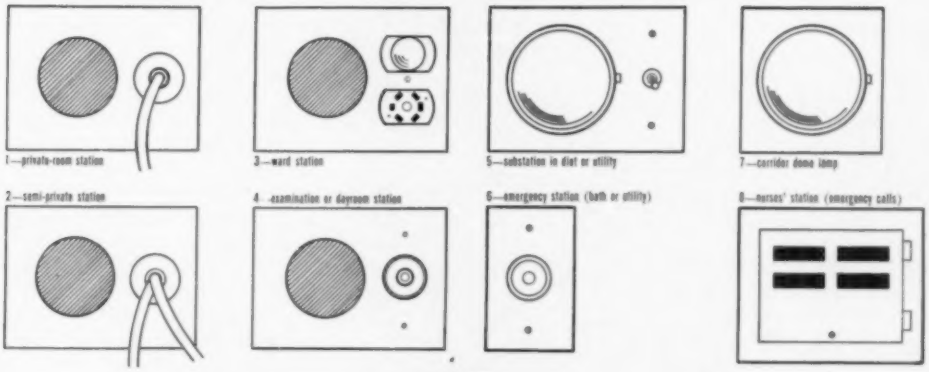
When a patient wants assistance, he presses his calling button *(Figure 1)* which causes a lamp to be lit and remain lit in the dome light over the room entrance, in the pilot light in duty, work room, or diet kitchen, and the associated pilot light on the nurses' master station. The buzzer in the utility station and in the nurses' station sounds momentarily. The nurse at the master station picks up the handset, *(Figure 2)* throws the cam key opposite the lit pilot lamp and, using the talk-listen key, converses with the patient. At the end of the conversation, the nurse requests the patient to reset his button, which extinguishes all associated lamps. The nurse flips that room station back to normal and is now ready to answer the next call. The system is so designed that in the event the patient does not receive immediate attention, he may repeatedly press his calling button which momentarily operates the buzzers in the system and flashes all associated lamps mentioned above.

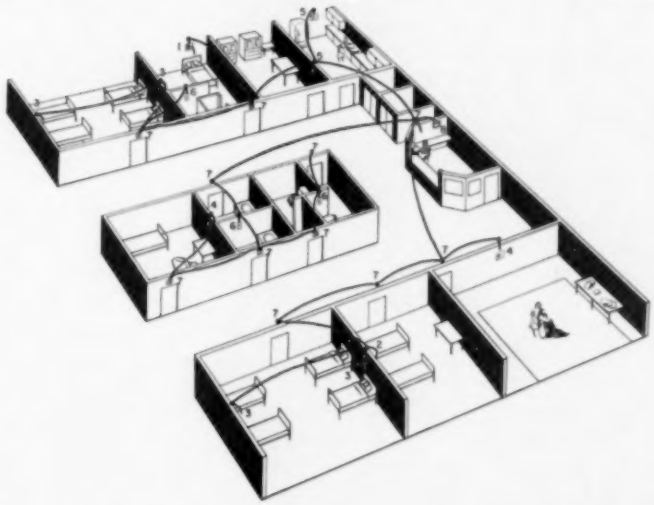
proper placing of equipment

The microphone-speaker and calling button receptacle combination should be installed on the wall at the head of the patient's bed. The system is designed so that the patient need not face the microphone-

Figure 1—patient initiates conversation by pressing call button (below, left). *Figure 2—master station combines built-in amplifier and double-throw cam keys to increase room station capacity and reduce size of cabinet* (below, right). *Figures 3 and 4* (center and bottom) *illustrate the eight stations of the system and a conventional conduit lay-out.*







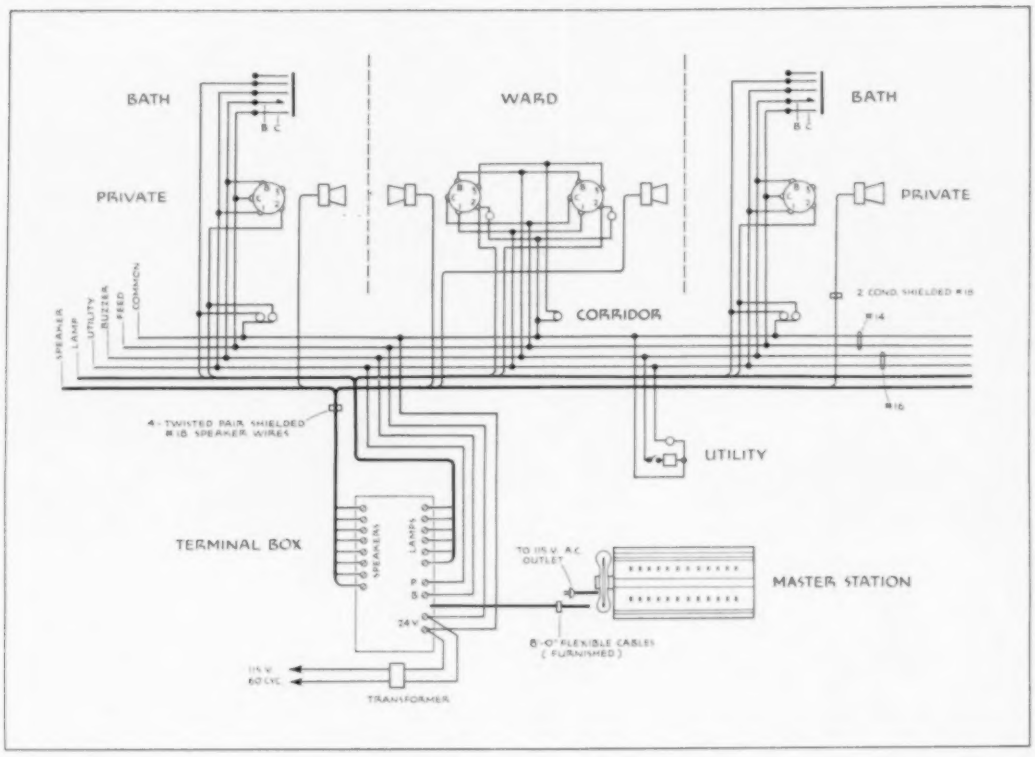


Figure 5—typical wiring diagram indicates number of wires and sizes required. Speaker and signal wires can be run in same conduit.

speaker during conversation. The calling cord which plugs into its receptacle (which is in the same face plate as the microphone-speaker) is 6′ in length. In semi-private rooms and wards, it is often most economical to use only one speaker between each pair of beds and a double calling cord which has only one plug and receptacle.

The master station can be installed on any convenient desk space in the nurses' station. Although the unit is portable, it is equipped with cables approximately 9′ long. These cables end in a terminal box, usually mounted in one of the walls. Sometimes certain locations for the terminal box are more advantageous from the electrical contractor's viewpoint and this, therefore, often determines the location of the master station and the desk on which it is to be mounted.

wiring requirements and power supply

Most systems permit the lamp, audible signal, and speaker wires to be run in the same conduit. However, this should always be checked with the manufacturers whose equipment is to be specified. Installation costs are naturally higher for those systems that are not designed to permit the one-conduit layout. The speaker wires should be shielded, twisted, pair No. 18 or larger. The signal wires should be No. 16 and the common feed wires running from the transformer secondary should be No. 14.

The eight stations of the system and a conventional conduit layout are shown (*Figures 3 and 4*). Conduit layout, of course, will be dependent on the type of construction used for the particular hospital. The wire sizes and number required are shown in the wiring diagram (*Figure 5*).

The system operates from the 24-volt secondary of a N.E.M.A. Standard heavy-duty signaling type of suitable capacity to light at least one quarter of the lamps on the system simultaneously.

hospital lighting

by Howard Haynes*

Lighting requirements should be constantly considered during the designing of a hospital. A neat clean appearance and ease of maintenance are factors more important in hospital lighting than in the lighting of other interiors. Hospitals emphasize cleanliness—and a lighting system of simple, neat design can add much in creating this impression. Lighting fixtures must be washed and cleaned, not only to maintain lighting efficiency but also, more important in hospitals, as part of the regular routine of keeping all surfaces clean. The cost of cleaning fixtures can vary considerably, depending on the types used. A few extra dollars spent to obtain easy-to-clean lighting units may save many times that amount during the life of the fixture.

To meet these requirements, a variety of fluorescent and filament fixtures are available. For general lighting, the trend seems to be toward recessed ceiling fixtures covered with diffusing plastic or glass, flush with the ceiling; either fluorescent or filament lamps can be used.

comfortable lighting

To achieve comfortable lighting sharp differences in brightnesses within the field of view must be avoided. Lighting units must not be too bright and bare lamps must, of course, be shielded. Often overlooked is the bare lamp brightness as reflected from specular metal or glossy paint; mat, rather than glossy, paints should be used. Floors should be relatively light in color; walls should have pleasing colors and reflect about 50 percent of the light; ceilings should reflect even more but need not necessarily be white. Good lighting fixtures alone do not assure comfortable lighting—the whole interior of the hospital must be taken into consideration in designing the lighting.

amount of light

No matter how clean and sanitary a hospital may be, dim lighting can create the opposite impression. But even more important than appearances, it has been shown that for quick, accurate, easy seeing, certain levels of illumination are required. These values vary, of course, with the difficulty of the seeing task. The footcandle recommendations for the various elements in a hospital plan are listed in the table accompanying this article.

Hospital lighting must satisfy the needs of at least three groups of people—the patients, the hospital staff, and the visitors. The patients, unless they are well enough to read, want low-level, comfortable lighting. The staff, on the other hand, requires higher levels of illumination to permit quick, accurate seeing. The visitors would like to find the hospital a warm cheerful place, and lighting can do much to give this feeling.

fluorescent or filament lighting?

Either fluorescent or filament lamps can be used in most locations. For simplicity, lowest initial cost, and low maintenance cost, filament lamps can be recommended. Fluorescent lamps are more efficient: less heat is generated and the surface brightness is relatively low. As for over-all cost, when lamps are operated many hours per day and/or the electric rate is relatively high, fluorescent lamps are generally preferable. In the past, the principal objection to the use of fluorescent lamps in hospitals was the color they produced. The lamps were deficient in red and people under them looked less healthy than they really were—psychologically bad in hospitals. However, recently developed fluorescent lamps that radiate red light give complexions a more natural appearance. As this is accomplished at some sacrifice in efficiency, their use is recommended only for patients' rooms, operating and examining rooms, and in the cafeteria and dining room. Eventually they may be used more generally.

emergency electric power

Failure of the electric supply in a hospital can well be a matter of life and death; an emergency supply is imperative. Unless the emergency source has sufficient capacity to take on the requirements of the entire hospital, certain lights throughout the hospital should be put on a special circuit that is controlled by the auxiliary power supply.

operating rooms

Good lighting is essential in surgery where a life may depend upon the ability of the surgeon to see clearly. Because the surgeon may be looking deep into a cavity of low-reflection factor, he should have a lighting intensity of 1800 footcandles or more. This light must come from several wide-angle directions to decrease the shadows from the surgeon's head, his hands, and the surgical tools. Heat-absorbing glass filters are used to reduce the radiant heat and provide color correction. A system of concentrating lens plates mounted in the ceiling is also available. The choice of which of the several available operating lights to use can best be left to the surgeons.

The operating light should be supplied by a branch circuit independent of all other lights, and this circuit should be connected to the emergency bus. An automatic throw-over switch should be provided to connect the operating light directly to the emergency supply in case of failure of the main power supply.

General lighting in operating rooms has sometimes been neglected. Occasionally a surgeon will insist that he can see better without the general lighting, but when he says this it can be assumed that his general lighting system undoubtedly gives light of poor quality and low quantity. A good general lighting system providing 50 footcandles of light will increase the surgeon's comfort, since it will reduce the contrast between the operating area and the surrounding area. The operating staff will have good light to see quickly and easily in carrying out the instructions of the surgeon. Fixtures built into the ceiling—covered with glass or plastic and flush with the ceiling—are being widely used in modern construction. Either filament or fluorescent lamps may be used. Cool, white fluorescent lamps give a pleasant color that approximately matches the hue of the color-corrected operating light; they also give the anesthetists an excellent idea of the true coloring of the patient's face and lips.

Outlets should be provided for portable operating lights which may be used by the surgeon. All lighting fixtures and electrical

* Lamp Division, General Electric Company, Nela Park, Cleveland, Ohio

Figure 1—the concentric-ring fixture with silvered-bowl lamp blends well with the ceiling. Fort Hamilton VA Hospital, Brooklyn, N. Y.

Fort Hamilton photos: Martin Helfer

Figure 2—this premature nursery is comfortably lighted to a level of five footcandles by coves containing continuous rows of fluorescent lamps. George Washington University Hospital, Washington, D. C.

Figure 3—lighting in a children's ward. There are two rows of fluorescent lamps behind the shield above blackboard. Rainbow Hospital, Cleveland, Ohio.

Figure 4—many architects prefer to dispense with ceiling fixtures in patients' rooms; the upward component of light from the bed lamps supplies the general illumination. George Washington University Hospital, Washington, D. C.

fittings below the 5' level must be explosion-proof because of the danger of igniting anesthetic gases. *(For additional data refer to "Safe Practice for Hospital Operating Rooms, 1950," by National Fire Protection Association.)*

air disinfection

The Council on Physical Medicine of the American Medical Association recognizes the value of ultraviolet air disinfection in reducing the known high concentrations of airborne organisms in hospitals. Germicidal lamps should be used only in fixtures specially designed for their use. Only louvered germicidal fixtures should be used in patients' rooms where there is continuous exposure of patients, and where the ceiling height is 10' or less. Germicidal units should be installed in the nursery, in the operating rooms, and in the contagious disease wards, if not throughout the entire hospital.

In the operating room of the Fort Hamilton VA Hopsital the fluorescent lighting fixture over the doors contains germicidal lamps for irradiating the upper air without exposing the people in the room to the ultraviolet radiation. The four germicidal lamps recessed into the ceiling on either side of the surgical light can be used to clean the air in the operating room between operations (while the room is unoccupied) or can be left on during brain operations and thoracoplastics by shielding the face of the surgeon and his staff from

Figure 5—isolation-ward corridor looking into solarium. Two 60-watt tungsten filament lamps in each recessed louvered fixture provide an average of approximately 10 footcandles. A 15-watt filament lamp in each unit is for night lighting. Fort Hamilton VA Hospital.

Figure 6—the corridor and reception room in the dental section are comfortably and adequately lighted to a level of 10 footcandles with two continuous rows of fluorescent lamps in an indirect fixture. Fort Hamilton VA Hospital.

Figure 7—this surgery corridor is exceptionally well lighted, an average of 40 footcandles, with recessed fixtures containing two 40-watt fluorescent lamps. Fort Hamilton VA Hospital.

Figure 8—this chemistry laboratory is well lighted to a level of 50 footcandles. Two rows of 8' cool-white slimline-fluorescent lamps are used in each fixture. Glass coverplates diffuse the light. St. Francis Hospital, Hartford, Conn.

the rays of the lamps. (*For photo of operating room in Fort Hamilton VA Hospital, see page 74.*)

patient's room

Four lighting requirements should be considered in the patient's room; they are: general lighting (5 footcandles); a light for casual reading (20 footcandles); an examining light for the doctor (100 footcandles); and a night light giving a fraction of a footcandle. Sometimes four different fixtures are used to meet the needs and at other times two or more of these lighting requirements may be built into one fixture.

In considering the general lighting, it is well to remember that, to the patient, the wall at his head is the "ceiling" and the ceiling is a "wall" which he is facing. To provide him with the most comfortable general lighting possible when using a ceiling-hung unit, it is necessary that the fixture brightness, as seen by the patient, be nearly the same as the brightness of the ceiling surrounding the fixture. This rules out enclosing globes and recessed fixtures, as being too bright, and totally indirect fixtures, as being too dark against a bright ceiling. Fixtures of plastic or glass are available that meet the requirements. Perhaps the simplest fixture that approaches the requirements is a silvered bowl lamp with concentric-ring louvers (*Figure* 1).

Cove lighting can be designed so that it will give very uniform and pleasant general

lighting (*Figure 2*)—particularly when instant-start, warm-white fluorescent lamps are installed in such coves. However, cost generally rules out cove lighting. A simplification of cove lighting would be a modified form of the fixture used at Rainbow Hospital in Cleveland (*Figure 3*).

Many hospitals prefer to provide the general lighting by units on the wall behind the patient. In such cases, a reading light is generally incorporated into the fixture, thus making one fixture serve two purposes. Such a solution, however, fixes the position of the beds—which is considered objectionable in some hospitals.

For casual reading, 20 footcandles of light is adequate. In the few hospitals where the patient does prolonged reading before being discharged, a level of 30 footcandles is required.

Where there is more than one patient in a room the light from the reading unit should be well controlled—confining the light, as well as possible, to the patient's bed (*Figure 4*).

Many reading lights are attachable to the head of the bed. These units are simple and generally adequate, but the maintenance cost of repairing frayed lamp cords and broken lamps can be high.

Floor stands give a homelike atmosphere, but as such a light might annoy other patients in the same room it should be considered for private rooms only. Maintenance cost of floor stands is usually high.

Sometimes the patient's reading light can be moved or taken apart to give the doctor a small examining light. In other cases a special examining light can be kept in a nearby closet.

A 25-watt filament lamp in a wall-recessed unit, mounted 18 inches above the floor and provided with a lens or louver to direct the light downward, is generally used for the night light. Another method of providing night lighting, is to have an additional low-wattage lamp in the general lighting fixture. The night light should be shielded from the patient's eyes and it should be located to avoid distracting shadows.

Mercury switches are suggested for use in the patient's room to reduce noise. An automatic door switch on closets is a worthwhile refinement.

As the ceiling is a "wall" to the patient, it would be logical to paint the ceiling a pale color—as long as its reflection factor is kept above 50 percent.

corridors

The intensity of light in the corridors outside the paitents' rooms should be approximately five footcandles, to blend with the general lighting in the patients' rooms. Care must be taken that no corridor lighting fixtures are visible to patients in their beds. Corridors are frequently lighted with units recessed into the ceiling and containing one or more filament lamps. Very pleasant corridor lighting is obtained with a continuous row of slimline fluorescent lamps operating at 200 milliamperes. Crosswise louvering is used. While this system gives a higher lighting level than suggested above, it is a very comfortable system and worthy of consideration. (*Figures 5 and 6 illustrate corridor lighting at Fort Hamilton VA Hospital.*)

Night lights should be provided in the hall. With recessed fixtures in the ceiling it is a simple matter to have an additional low-wattage lamp in each unit to serve as a night light. If fluorescent lamps are used for the regular hall lighting, a separate system of night-lighting units may be required.

Corridors in other locations in the hospital can take higher levels of illumination (*Figure 7*).

nurses' stations

For reading charts, writing, and performing miscellaneous duties, the nurses should be provided with a general illumination of 30 footcandles. (*Excellent lighting of a nurses' station is illustrated on page 72.*)

laboratories

Here the work is of a precise nature and the laboratory workers must be able to see easily and efficiently to achieve accurate results. Thirty footcandles of lighting should be the minimum. There should be 50 footcandles on the table (*Figure 8*) and special provisions for 100 footcandles for such difficult seeing tasks as the reading of pipettes, burettes, etc. Daylight color or quality of light is desirable for colorimetric measurements.

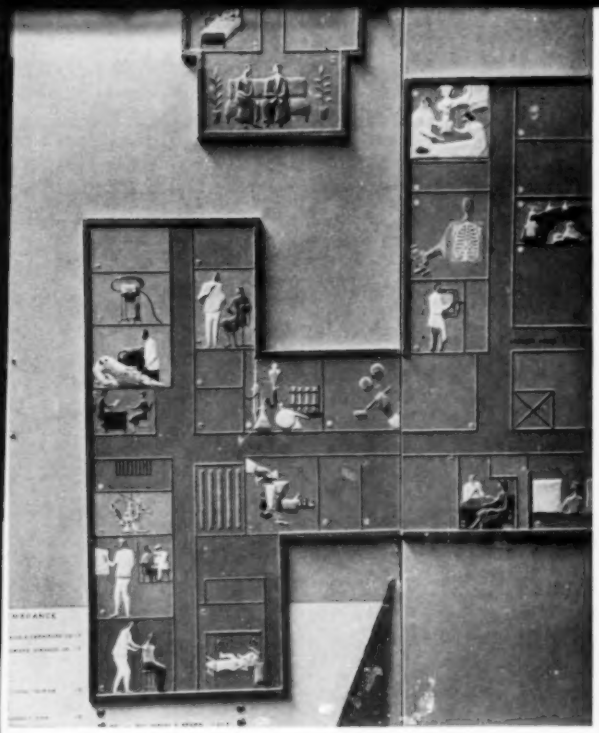
offices, laundries, kitchens, etc.

These areas should be lighted to a minimum of 30 footcandles, with good office- or industrial-type lighting units and in accord with the practice for office and factory lighting. In selecting fixtures, it should be recalled that the psychology of sanitation carried out elsewhere in the hospital has some influence in these areas.

In offices where difficult seeing tasks exist (auditing and accounting, business-machine operation, transcribing and tabulation, bookkeeping, drafting, designing), a lighting installation providing 50 footcandles is advisable.

RECOMMENDED FOOTCANDLES (maintained in service)

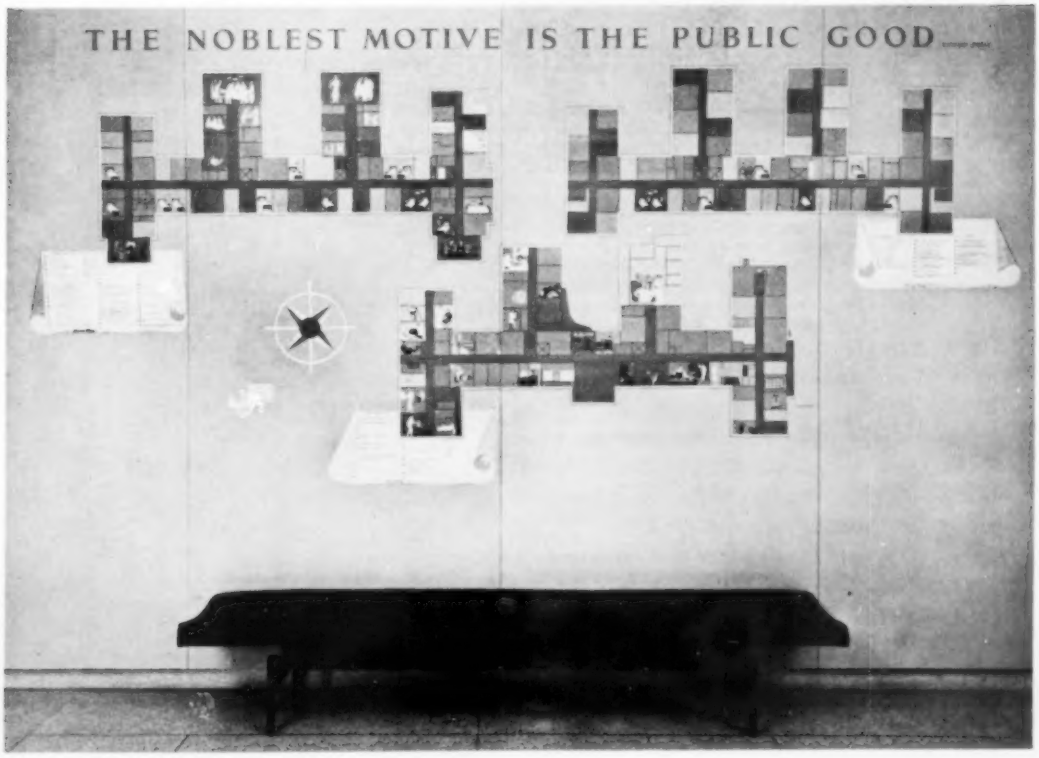
Autopsy room:	General lighting	30
	Autopsy table	200
Consultation rooms:		30
Delivery rooms:	General lighting	50
	Delivery table (normal deliveries)	200
Emergency rooms:	General lighting	50
	Supplementary	200
Examination rooms:	General lighting	50
	Supplementary	100
	X-ray and Fluoroscopy	10
Kitchen:		30
Laboratories:	General lighting	30
	Supplementary on work tables	50
	Close work	100
Library:		30
Nurses' stations:		30
Offices:		30
Patients' rooms:	General lighting	5
	Supplementary for casual reading	20
	Supplementary for examination	100
	Corridors	5
Pharmacy:		30
Solaria:		30
Sterilization rooms:		30
Surgery:	General lighting	50
	Operating table	1800
Therapy:		30
Toilets:		10
Utility rooms:		30
Waiting rooms:		20



hospital mural

Conspicuous record of names of donors whose gifts built Valley Hospital, Ridgewood, New Jersey, was a requirement given special attention by Eleanor Pepper, Interior Consultant, New York. In selecting colors and furnishings for the new hospital, Miss Pepper had attempted to stress a homelike atmosphere and she wished to avoid placing a funereal plaque or solemn "memorial book" in the prominent memorial alcove at the right of the main lobby (*photos below*). She turned to Louis Ross, New York painter whose colorful gesso decorations are well known, for a lively translation of the hospital plan that graphically reveals the functions of the various rooms and at the same time lists the donors on scrolls painted below (*detail at left*). Fine & Miltonberger, New York and Ridgewood, were the architects-engineers.

Photos: Ernst Weitz



the architect and his community

Sherlock, Smith & Adams: Montgomery, Alabama

Like most tradition-rooted communities, Montgomery, Alabama, has long clung to its architectural heritage and taken a dim view of more recent trends in architecture. It is, therefore, extraordinary that a firm such as Sherlock, Smith & Adams, Architects and Engineers, has been able not only to do reputable contemporary work throughout the area but also to apply it to buildings in almost every category. This renaissance of good architecture in the area cannot, of course, be attributed to this one firm, or even to the increasing group of forward-looking younger firms in the southeast, nor to any single factor. Rather, a happy coincidence of the mood of the times, the performance of these knowing architectural offices that have worked so conscientiously toward a contemporary expression, and increased understanding of the dynamic quality of progressive architecture has brought about its local acceptance. Thus, as the illustration below emphasizes, the old and the new often stand in startling contrast: in the foreground, an agreeable instance of the inherited architecture; in the background, the uncompromising mass of the Walter Bragg Smith Apartments in Montgomery, designed by Sherlock, Smith & Adams.

The firm was established in 1945 as Sherlock and Smith, when Sherlock, the engineer, and Smith, the architect, returned from war service. In the following year, Adams, a young Montgomery architect, became the third partner. Chris J. Sherlock, the head engineer and president of the firm, had his professional training at the Georgia School of Engineering and Georgia School of Technology. After numerous local assignments, chiefly with the Alabama Highway Department,

The Walter Bragg Smith Apartments (across-page and in background, photo at right) *is two blocks from the center of Montgomery and consists of 122 small apartments, with three retail shops on the lobby (ground) floor and a penthouse cocktail lounge. Framed in steel, the structure has cavity, brick, end walls and spandrel areas of glazed tile on hollow tile. The building was 100 percent occupied ten days after opening. Cost: $10.50 per square foot.*
Photos: Betty Baldwin

he joined Smith to launch the firm. Sherlock devotes his main efforts to the solicitation of the bigger commissions; hence, spends much time traveling and conferring with prospective clients. Officially in charge of the engineering work of the firm, he now leaves more and more of this in the hands of his capable staff. Moreland Griffith Smith is a graduate of both the Alabama Polytechnic Institute (B.A. Arch.) and *l'Ecole des Beaux Arts* in Paris, and he received his Master of Architecture degree from M.I.T. After working in offices in Detroit, Nashville, and Montgomery (including his own practice in the last city), he founded the firm with Sherlock at the war's end and now serves as the office treasurer. Although the financial responsibilities have deprived him of the privilege of overseeing design details, he concerns himself with the general tack of each major project, and is insistent on even obscure esthetic points. This dual activity, and his ability to divorce the role of financier from that of esthete, has occasionally been the despair of the treasury, and the delight of his starry-eyed, fresh-out-of-college draftsmen. Richard J. Adams, also an architect, received his B.S. Arch. from the Alabama Polytechnic Institute and worked with various Montgomery firms before becoming a partner in 1946. His chief official functions are with the design and drafting rooms. As one of the staff describes his activity, "he is a tireless and nerveless man who works with no apparent order or system. When his desk or drafting board becomes completely smothered in sketches, overlays, salesmen's samples, and work sheets, he merely appropriates another desk and moves on. But from under these great piles of disorder comes an amazing amount of work, all of which is thorough, correct, and definite."

Montgomery is a growing city—75,000 in 1934; 125,000 in 1951—but still small enough to please the partners, all of whom prefer to live and raise their families in a friendly, smaller community. While Montgomery is their base of operations, however, the practice extends over practically the whole state, excluding only Mobile and Birmingham proper. As a result, "we keep three jeep station wagons covering the state at all times on survey and inspection work."

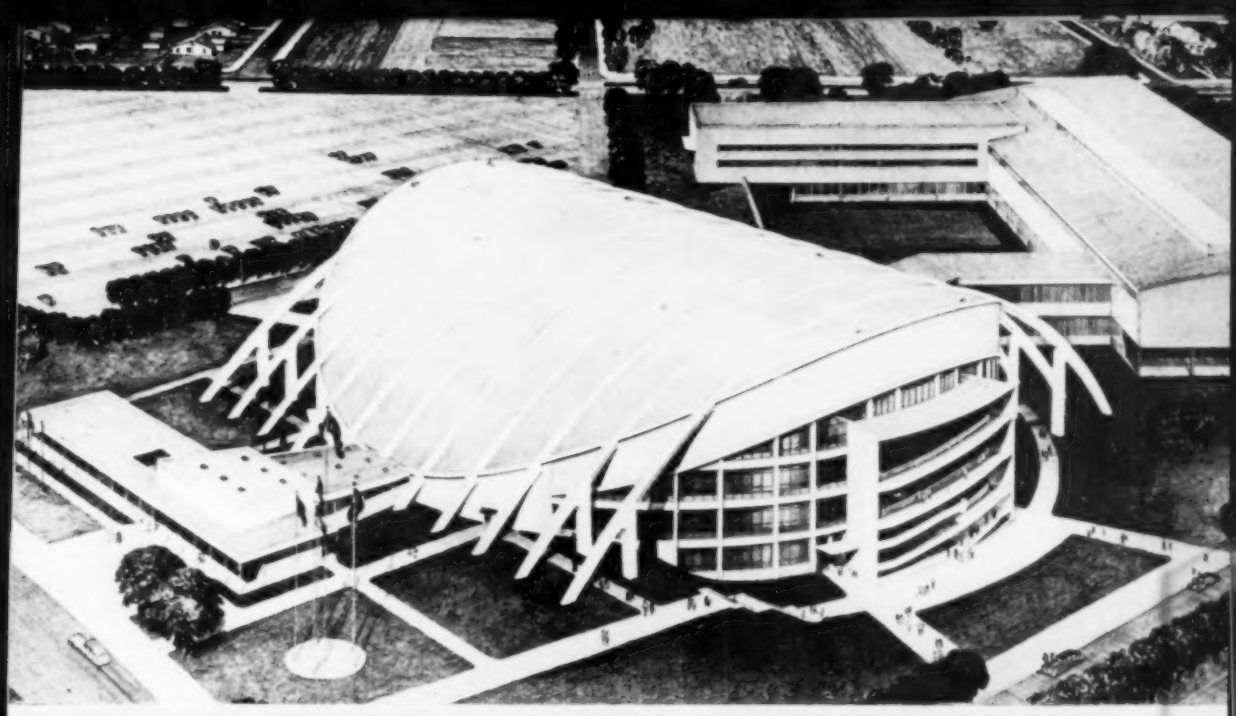
The only disadvantage they cite about working in a community of this size is that they find they constantly have to combat the idea that the big-city architect must be a better architect, or he couldn't survive in the big town; but add, "we seem to get around this fairly well by hitting the client 'fustest with the mostest.' " Emphasizing that a firm devoted to contemporary work not only can survive but prosper in such an environment—by enlarging the sphere of activity well beyond the immediate community's bounds—they report that they now have a $6,200,000 warehouse project for the Corps of Engineers; a $3,500,000 warehouse and refrigeration storage job for the Navy; a $1,500,000 hospital offshore for the Corps of Engineers, and a very large overseas project for the Department of Defense. The partners feel that one of the most important ingredients in the firm's success is the fact that they maintain a complete engineering department. While they question whether this is expedient financially, "it has made possible a more eloquent expression of structure as a basis for design," and they would not operate on any other basis. Indeed, they say, "no firm can afford to be without this so-called luxury."

It is noteworthy that both of the architects in the firm—Smith and Adams—had traditional schooling. No small factor in bringing them into the contemporary realm, as well as facilitating local acceptance of the progressive approach, is the close physical and cultural proximity of Auburn, where Alabama Polytechnic Institute is located. Of the firm's 35 employees, the great majority are young Auburn graduates. And out of the ranks of these come the junior designers and junior engineers who serve as job captains in their respective departments.

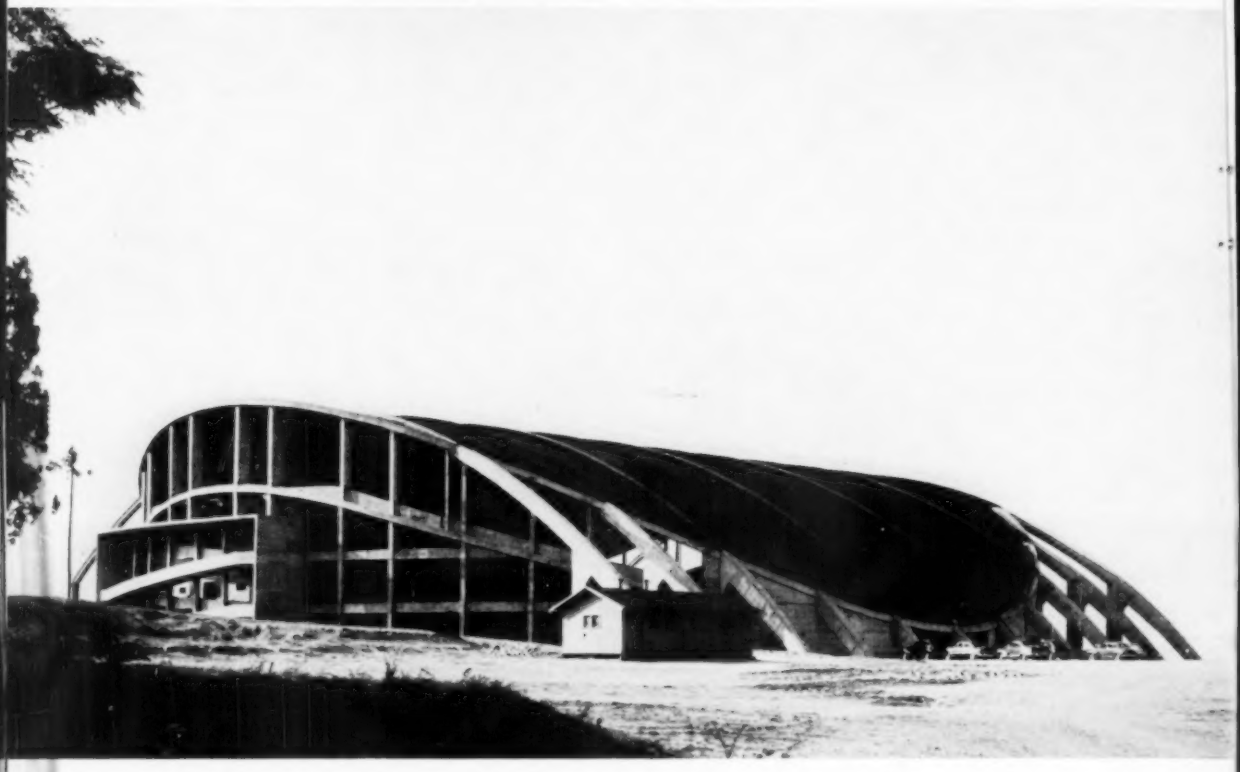
When a job comes to the office, a *parti* is developed by one of the architect principals. Then, it is handed over to a job captain for development and follow-through, the amount of authority delegated being dependent on the size and nature of the project and the job captain's ability. Daily *critiques* are held by the principals. This policy has justified itself repeatedly by producing fresh—"and often practicable"—ideas. But, the firm points out, while this is the habit, it is by no means the rule, "for in this office, there is no definite rule . . . The partners know that creative work must not be mortgaged to a mechanical schedule."

In working to produce progressive work in this tradition-imbued area, the partners subscribe to the doctrine that half a cake is better than none at all, although they feel that sometimes "we should have been more bold and tried for ¾ of the cake at least." In dealing with a client, "we take him along the road as far as he is ready and willing to go, with the most persuasive means at our command. But we do not claim to be purists . . . Our aim is to do good jobs, so that they will lead to better jobs. And, regardless of the degree of success in particular designs, the sum total, we believe, will add up to a better commu nity."

ADAMS SMITH SHERLOCK



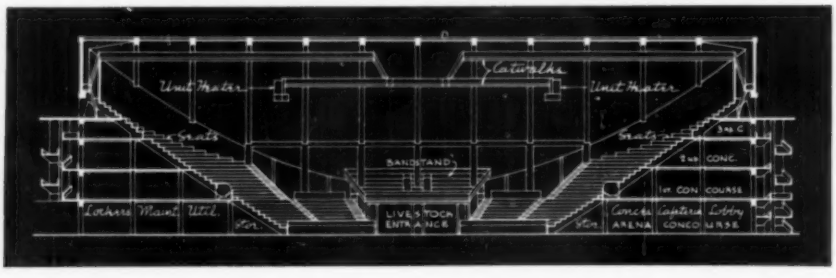
agricultural coliseum

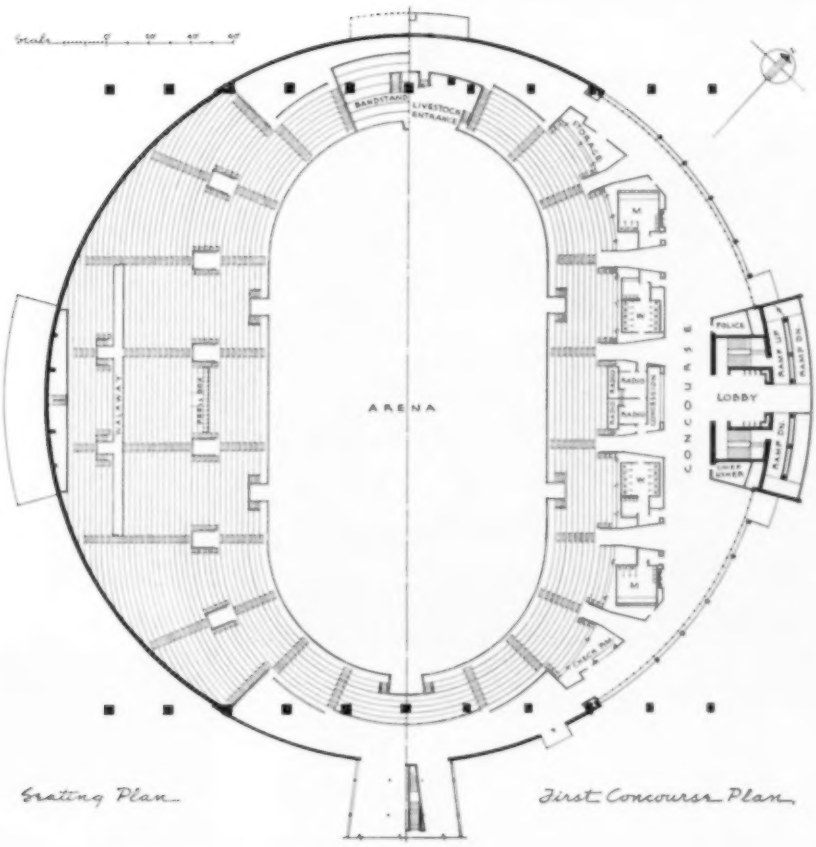


First unit of a vast Agricultural Center that is being built for the State of Alabama on a 70-acre tract near Montgomery's city limits, this dramatic coliseum has permanent seating for 9060. To be used primarily for fairs, livestock shows, and large statewide meetings, it will also be available for rodeos, concerts, etc.

The eventual center will include an administration building and various auxiliary structures *(plot plan, preceding page)*. Without question, the most remarkable things about this concrete structure are the round plan, roofed by a barrel arch of thin-shell (3-inch) concrete, the axis of which runs at right angles to the axis of the arena, and the fact that the frame and the seating are independent structures. Thus, the greatest height—and consequently, most seating—occurs at the ideal, 50-yard-line zone. The firm of Ammann & Whitney were consultants for the thin-shell roof.

Photos: Jack Holmes;
Construction Details: Cleveland Lane

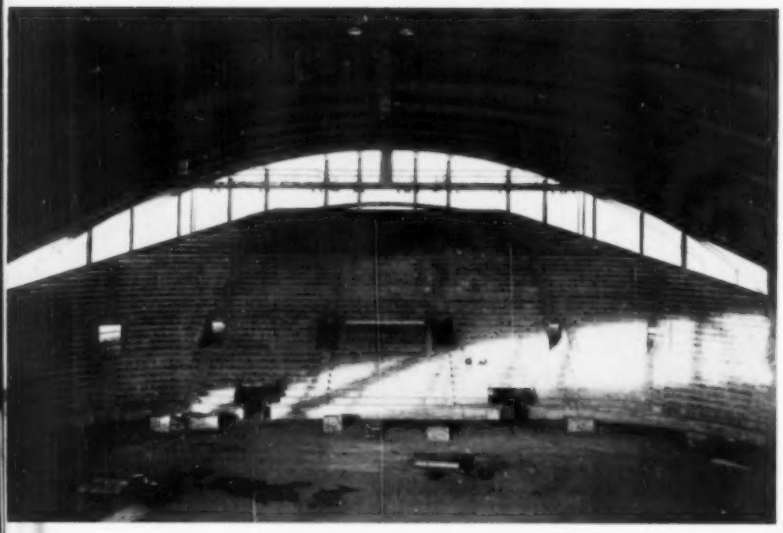


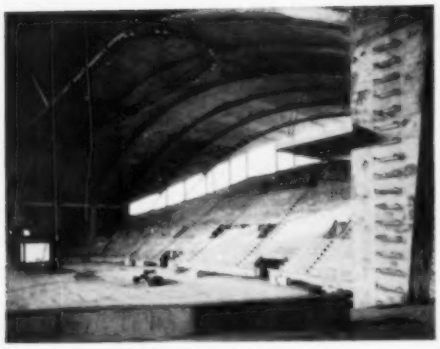


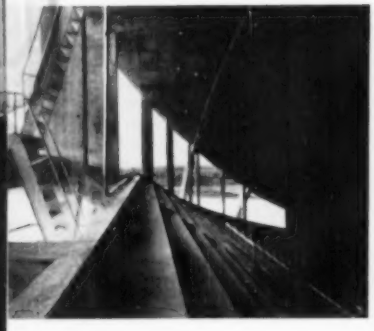
Seating Plan

First Concourse Plan

For such events as boxing matches, political conventions, etc., removable seating is placed in the arena, increasing the capacity to 15,000. Height of the coliseum at the center of the arches is 100 feet.





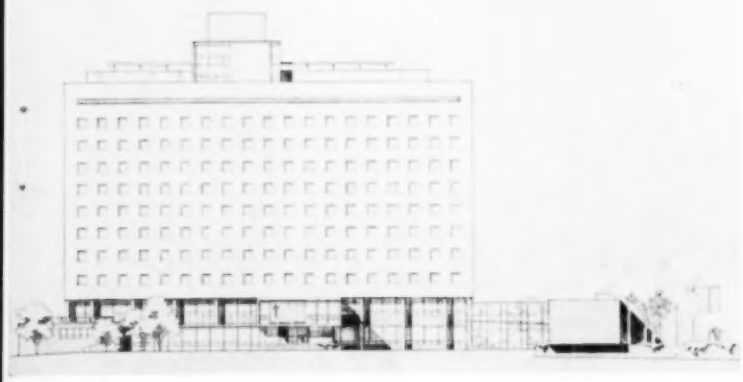


The 250-foot clear span encloses a 200-foot arena. Below the seating are two levels of concourses for exhibits and livestock stalls. Since the roof structure and seat framing were kept separate, the formwork for the roof could be reused on each pair of bays. On completion of the roof, construction of the stadium proceeded independently. Future work will include an outer shell of blue-green, heat-resistant glass, gray porcelain enamel, and gray-and-terra cotta glazed brick. J. A. Jones Construction Company built the $1,250,000 initial structure in fourteen months.

An office building for Dr. E. Kocaut (two photos at top), *this small frame structure has a waiting room, office, X-ray room, three treatment rooms, and a small lab and dark room. One of the earliest completed health-care facilities designed by the firm is the McLennon Clinic at Opp, Alabama* (photos immediately above and at right).

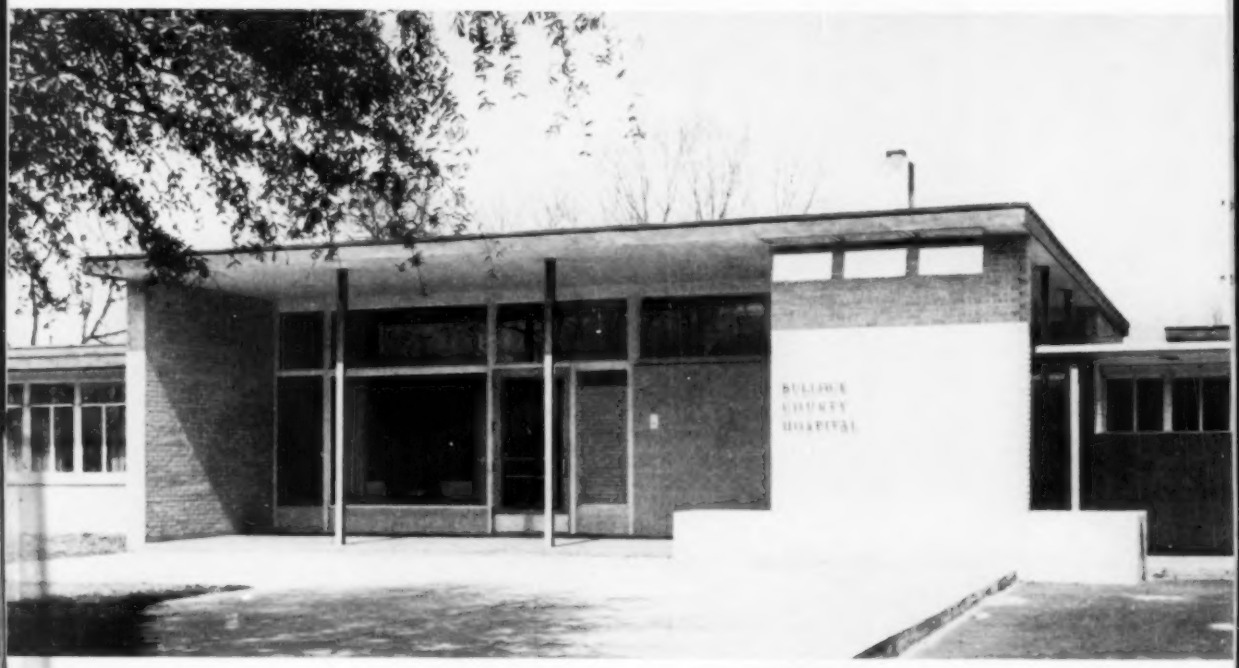
Photos: F. S. Lincoln and Jack Holmes

Rendering of St. Margaret's Hospital, a 272-bed project for Montgomery. Among the plan refinements are oxygen outlets at each bed, complete air conditioning, and an electronic device that allows the nurse on duty to check each patient's respiration without leaving her station.



health facilities

the architect and his community: *Sherlock, Smith & Adams*



When the hospital was built in 1950, there was only one doctor in the county. Three doctors, including a surgeon, have since located in the community and the hospital is operating within its budget. Cost, including lot, building, equipment, and architects' fee, was $286,000, ($9053 per bed).

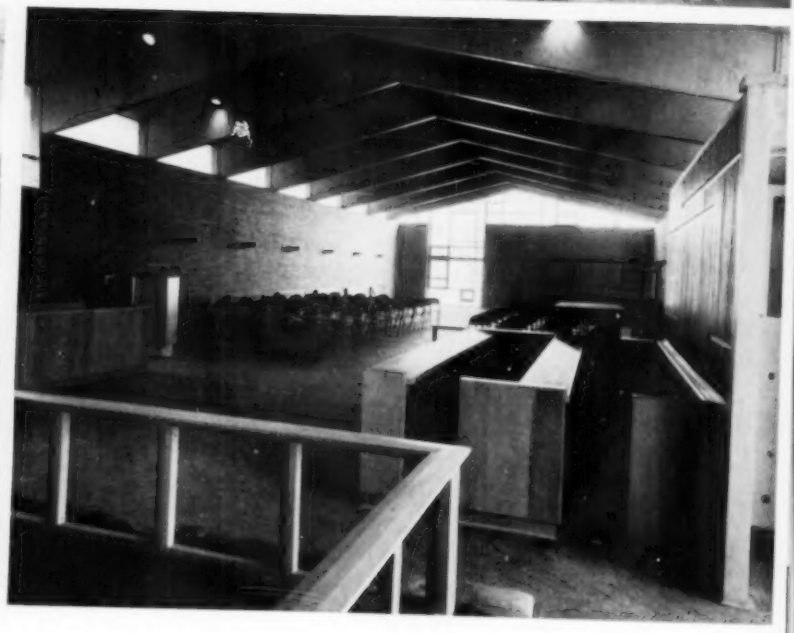
Photos: Jack Holmes; Betty Baldwin

hospital

Bullock County Hospital, built under the Hill-Burton Hospital Act in Union Springs, Alabama, is a 30-bed general hospital designed to meet the needs of a rural, agricultural County. Patients' rooms face north or south. To provide efficient operation with a minimum staff, the nurse's station is centrally placed and controls all corridors. A service core in the center of a double-corridor scheme in the nursing wing is lighted and ventilated by motor-operated clerestory windows. Structurally, the hospital is steel framed, with brick cavity walls and structural glazed facing on spandrel walls. The roof deck is vermiculite concrete. Operating rooms and delivery suites are air conditioned. A nurse-to-patient call system allows direct communication between patients and the nurse's station.

Ground Floor Plan

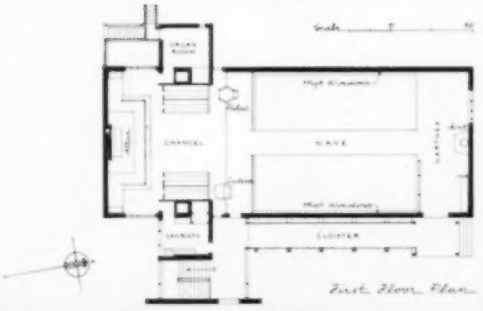
the architect and his community: *Sherlock, Smith & Adams*

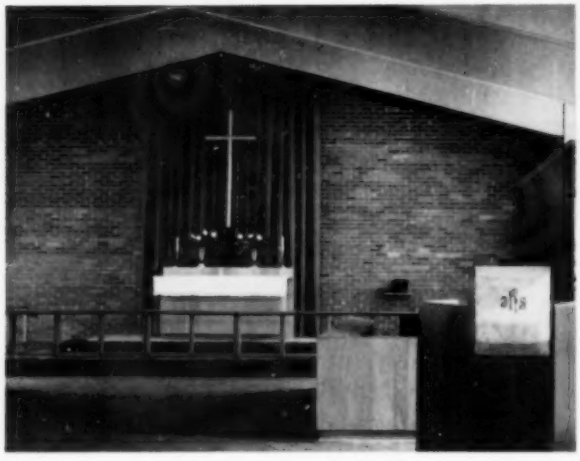


St. Andrew's Episcopal Church, Tuskegee, Alabama, serves an active faculty and student group at Tuskegee Institute. The completed unit is but a portion of the eventual scheme that will include a bell tower, cloistered courtyard, parish house, and church school. It was the Bishop's specific request that the church be "very simple and modern." The site slope allowed a two-level scheme that appears to be a one-story structure from the street. Below the church is an assembly room, opening on its east side to the court. The principal building material is brick, exposed inside and out—12-inch cavity walls, 12 feet high. Spanning from piers built into the brick walls, wood trusses encased in $\frac{3}{4}$" plywood support 3" cypress roof decking.

church

The top chords of the roof trusses extend as outlookers to support the roof overhangs, which shield the high windows between trusses. All exposed wood is natural cypress; the copper-surfaced roof will be allowed to acquire a natural patina. The glazed stair well (left) will connect the future parish house (containing classrooms, offices, and library) to the church. Photos: Jack Holmes, Betty Baldwin



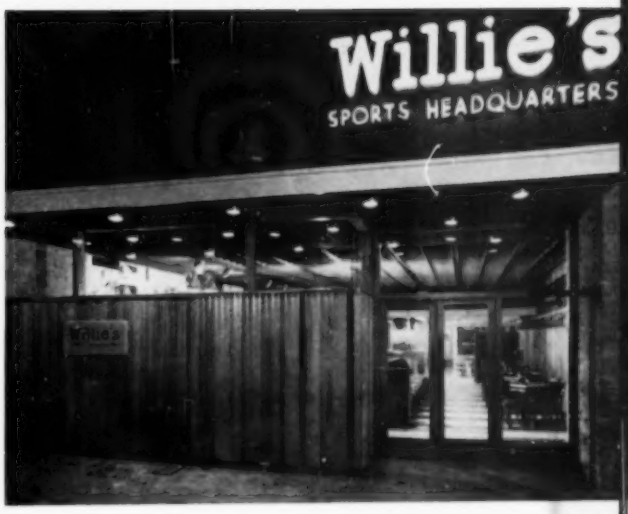


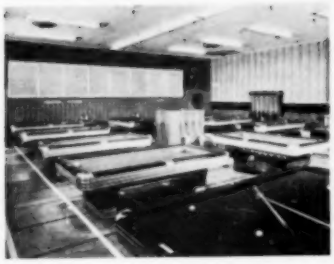
the architect and his community: *Sherlock, Smith & Adams*

house

Built around a central courtyard on top of a wooded knoll near Hurtsboro, Alabama, this is the country retreat of a prominent local lumberman. A requirement of the program was to utilize the various woods that are his stock-in-trade. Hence, exterior walls are varnished poplar; different rooms feature such native woods as pine, magnolia, pecan, red gum, and hemlock. Floors throughout are oak. To offset the extensive areas of light-golden-brown natural wood, gravel guards and louvered screens were painted light blue; window frames, white. Photos: Jack Holmes

Floor Plan





stores

One of the important contributions the architects have made to the community is the face-lifting of numerous commercial structures. In each design, a careful attempt has been made to establish a character that is appropriate for the type of store involved: Willie's (two top photos) *is an elegant version of the typical sports center and pool hall with wide use of natural wood, stone, and leather; Lilienthal's* (left) *is a men's clothing store, with a front of natural cypress, stone and glass, upper "billboard" of marine-striated plywood stained gray-green; and Bronson's* (two bottom photos) *is a children's shop with a billboard front, the upper panel of which is natural corrugated asbestos while the lower walls are structural glass and travertine.*

Photos: Rodney McCay Morgan; Jack Holmes

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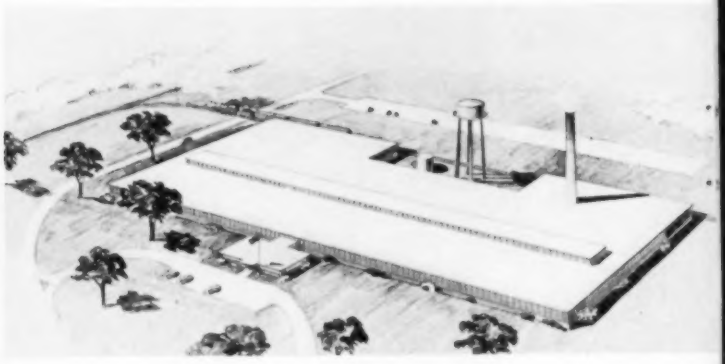
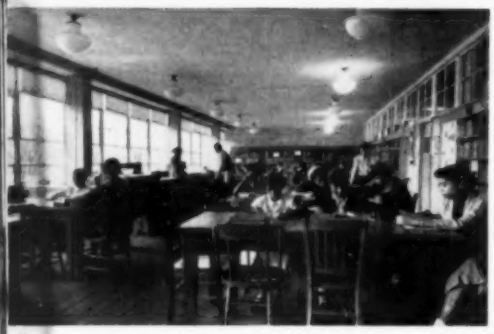
2





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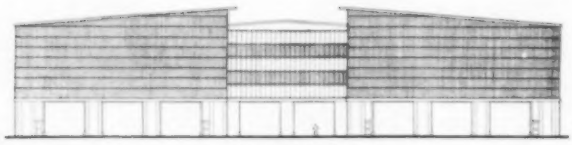


On this page, we show the merest sampling of work in other categories that Sherlock, Smith & Adams are doing in their area: the Booker T. Washington School, in Montgomery (two photos above) is a fireproof structure built to a minimum budget; a projected plant for a woolen company (top, right); rendering of the huge Anniston Ordnance Depot, near Anniston, Alabama (center, right) done by the architects for the Corps of Engineers, U. S. Army; and (below, right), a court room in the DeKalb County Court House, Fort Payne, Alabama. The firm has also done several of the big buildings in the State Capital group in Montgomery and has developed a "grand scheme" incorporating all existing buildings with several proposed new units into an integrated civic center.

Photos: Jack Holmes; F. S. Lincoln

4

sprayed-on vinyl-plastic sheeting

by Guy G. Rothenstein*

Operation Mothball: early use of plastic spray

Sprayed-on vinyl-plastic sheetings are obtained by spraying a liquid vinyl chloride-acetate copolymer (for simplification, hereafter called plastic spray), using standard spray equipment capable of producing 90 lbs. of air pressure and 25 cfm air displacement.

characteristics

If such a material is applied by six to eight passes of the spray gun over any polished surface (without adhesive), it can be stripped off after a few hours of curing. A flexible plastic sheeting is formed, having the general properties described *(Table of Characteristics)*.

An additional characteristic of this material is that it can web over open spaces up to 2" wide, and if mixed with a webbing solution the distance it spans can be increased, up to 24". Mention of this "webbing" recalls one of the original applications of plastic spray, namely, the weather protecting of the U. S. Government equipment, often referred to as Operation Mothball. From as early as 1942, guns, airplanes, and large parts of vessels have been "wrapped in cocoon" and then remained outdoors for years without being harmed in any way by the elements.

It is amazing that the government spent an estimated $40 millions on vinyl-plastic-spray materials and applications, before the building industry became interested. It may be questioned whether this was due to a poor public relations policy on the part of the manufacturers, or to a lack of imagination by those members of the building trade acquainted with this product in its early stage. This material, originating as a chemical development outside of the building industry, was considered by its formulators for several years mainly a maintenance product. Imitating more or less the government applications, it was first used for packaging industrial equipment for outdoor storage or overseas shipment; then for repair and rehabilitation work on existing structures. Roofs and stucco, brick, and concrete walls were successfully covered with plastic spray. A good number of these applications were made in Florida and in the Midwest. After some time, the material was also applied to some new structures as a weatherproofing material as well as an interior wall covering. An important early use, developed in 1948 by the Department of Agriculture was for sealing tobacco warehouses during the fumigation process. Through all these various applications, members of the architectural profession became, little by little, acquainted with plastic-spray materials and aware of the tremendous potentialities for new construction.

The revolutionary aspect is that here is a durable material which can be applied by simple means on surfaces of any kind, size, and shape, to form a flexible, continuous, jointless "skin," not affected by movements of the structure. Furthermore, this "skin," of leatherlike texture, has an attractive appearance and comes in a large range of colors.

One of the main struggles throughout the history of building construction has been man's effort to master the technique of joining materials. Sprayed-on-plastic sheeting is one of the greatest factors for progress in the struggle, to date. Actually, the construction of the joint between structural materials becomes in many respects secondary, because the sheeting covering the joint will now perform vital functions which previously had to be engineered, often at great expense, within the materials.

Other unique features of sprayed-on-vinyl sheeting are that it is adaptable to three dimensional shapes and that there are no limitations as to size. A convex dome, several hundred feet in diameter, can be as easily covered as a concave bowl a few inches in diameter.

longevity

For all building materials, the question of length of life is very important. Resins used to formulate these materials are completely polymerized and the sheeting is formed only by the evaporation of solvent; no embrittlement or shrinkage is experienced with the aging of the material. Unpigmented vinyl, however, should not be exposed to the rays of the sun. The materials should always be pigmented with aluminum, vinyl-plastic dispersions in colors, or both. If used for weather protection, it is important to specify the material in sufficient thickness. Generally, horizontal exterior surfaces are more exposed than vertical ones; therefore, the recommended thickness for a horizontal exterior surface is at least 30 mils.

The writer has examined sheetings that had been exposed for eight years: they did not show any sign of wear or deterioration. Accelerated weather tests indicate actually a much longer life span for these materials. It may therefore be considered a conservative conclusion that plastic spray will still be in good condition after 8 to 10 years of outdoor exposure and 12 to 15 years of indoor use.

After such periods of time, it is advisable to spray an additional 10 to 15 mils on the original sheeting. The plasticizer contained in this material will partially penetrate the old material and has the tendency to reactivate it. This rejuvenation process may be repeated during the normal life span of a building. (Contrary to paint, the strength of vinyl-plastic sheeting increases as its thickness is built up.)

Another suggested means to co-ordinate the life span of sprayed-on vinyl-plastic sheeting with the life span of structures is to apply mastics or vinyl-based paints

* *Designer, New York, N. Y.*

as top coatings, then to replace this top coat when required.

new concepts

If the concept of a "continuous skin" over structures is fully analyzed, it has the greatest repercussions on the selection of the other materials going into the structure, and their methods of erection.

Facts: Materials classified for "interior use only" may now be used for exterior wall construction as well. Precast elements, building panels, or boards may be erected with butt joints. Such units may be held in place by means of countersunk nails, screws, or bolts which will not be visible through the surface of sprayed-on vinyl-plastic sheeting.

Examples: In frame construction, the materials used on the outside of the wall may be simply plaster, ordinary plywood, or boards of gypsum, fiber, or cement asbestos.

In fireproof construction, columns, spandrels, or concrete masonry no longer require the application of heavy and expensive brick, stone, or metal facings.

In load-bearing wall construction, walls built of cinder or concrete block faced with plastic spray are attractive and absolutely waterproof.

Canopies, balconies, and other projections of buildings, as well as fascias and soffits, can now be covered with the same "continuous skin" as the vertical surfaces.

Roofs (except for load requirements) may be built in the same manner as walls. Projections such as upset beams, skylights, etc., do not pose any flashing or waterproofing problems.

exterior surfaces

From an economic viewpoint, the greatest interest lies in the use of sprayed-on vinyl-plastic sheeting as a facing material for the outer face of exterior walls of multistory structures of fireproof construction.

In general, the most common method for this type of construction consists of a skeleton of fireproofed steel or reinforced concrete, filled in with back-up masonry and windows; columns, spandrels, and masonry are then faced with a more expensive type of brick or other masonry materials. This "masonry curtain," supported by shelf angles, is expensive and its weight adds further cost to the skeleton and its foundations. The windows set in the openings are calked for weatherproofing. Even though this type of construction is referred to as "permanent," experience shows that repairs and maintenance are needed over the years; the windows have to be recalked, joints repointed, and the entire façade steam-cleaned.

If the realities of maintenance for any type of wall are recognized, tremendous savings in construction cost result when the "curtain" of masonry materials is omitted and replaced by vinyl-plastic sheeting sprayed on columns, spandrels, and back-up masonry. This original covering will stand up for at least 8 to 10 years; after that time it will have to be sprayed again as part of the regular building maintenance. In evaluating the savings, it should be considered that the cost of concrete and back-up masonry for a plastic-sprayed wall will be slightly higher because of desirable higher standards of workmanship. Besides the omission of the masonry curtain, however, savings will result through the absence of calking and additional materials for sills (the plastic spray seals the joint between window and structure).

Buildings faced with sprayed-on plastic sheeting are of monolithic texture and are washable. They can be practically any color and can do wonders to break up the monotonous appearance of our cities. (This point should be of special interest to housing authorities and builders of large developments.)

The same principle of exterior "plastic skin" can be applied to nonfireproof construction by substituting more economical materials and methods of assembling "under the skin."

Sprayed-on plastic sheeting also forms excellent roofs; however, for a roof of conventional design, there seems to be no particular saving unless special problems, such as unusual movements of the structure or upset beams, skylights or openings requiring flashings and counterflashings, are present which would increase the cost of conventional roofing or make its use impractical.

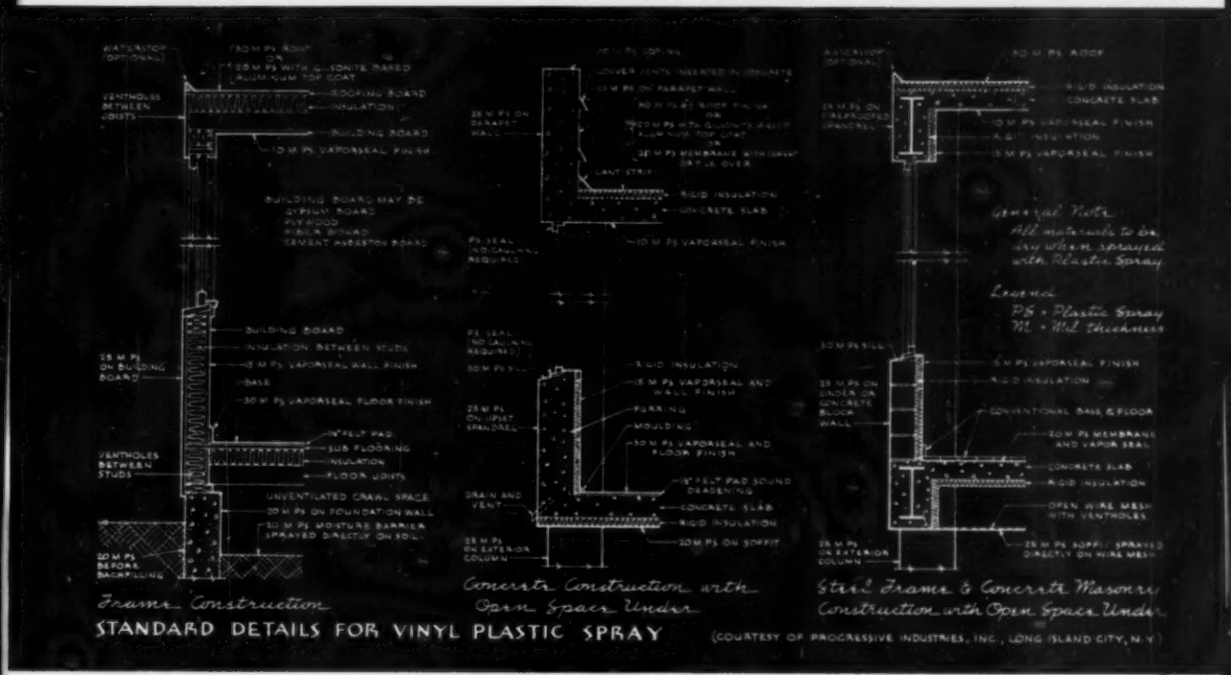
interior wall surfaces

Of equal importance to the new method of construction of walls and roofs are the interior uses of sprayed-on vinyl-plastic sheeting which bring about a completely new concept of finishes.

In geographical areas where winter heating is required, walls covered on the outside with a plastic spray "continuous skin" should also receive an interior vapor seal. This is necessary to prevent the vapors captured inside the structure from attacking the insulation and wall materials. The conventional vapor seals usually placed inside the wall have the disadvantage of leaving the wall finish exposed to attacks by vapors. If, instead, plastic

CHARACTERISTICS OF SPRAYED-ON VINYL-PLASTIC SHEETING

Thickness (6 to 8 passes):	.035"
Weight:	2 oz. per sq. ft.
Adhesion:	On glass: up to 25 psi On porous materials: nonstrippable
Tensile strength:	1200 to 1400 psi
Elongation:	200 to 225 percent
Flexibility:	+ 60F to + 100F: 500,000 flexes −32F: can be bent 180° over a ⅜" mandrel
Color:	Natural: ivory, gray, opaque. Pigmented with aluminum: metallic gray. Pigmented with dispersions: all colors
Texture:	Smooth with leatherlike grain
Abrasion:	Loss of 75 mgm after 5000 revolutions of Taber abraser
Wear:	Loss of .001" after 1000 revolutions of Taber abraser
Longevity (pigmented):	Exterior: 8 to 10 yrs Interior: 12 to 15 yrs
Temperature range:	— 40F to + 180F
Fire resistance:	Self extinguishing, does not support combustion
Corrosiveness:	Causes no corrosion on plain low-carbon steel when exposed to an atmosphere of 95% humidity at 95F (± 3F) for 240 hrs
Vapor transmission rate:	Not more than 0.5 gram per 100 sq. in. per 24 hrs
Chemical resistance:	Not affected by acids, petroleum solvents, aromatic gasolines, alkalis, aliphatic hydrocarbons, oils, fats, grease, and salt spray
Bacteriostatic and fungistatic resistance:	Not affected by major mildew and mold groups
Radioactive resistance:	Reduces the penetration of radioactive radiation into the surface to which it is applied


Frame Construction
Concrete Construction with Open Space Under
Steel Frame & Concrete Masonry Construction with Open Space Under
General Note
All materials to be sprayed with Plastic Spray
Legend
PS = Plastic Spray
M = Mil thickness

STANDARD DETAILS FOR VINYL PLASTIC SPRAY (COURTESY OF PROGRESSIVE INDUSTRIES, INC., LONG ISLAND CITY, N.Y.)

spray is applied to the interior surface of the wall, it forms a vapor seal at the ideal location and becomes at the same time a decorative finish, not vulnerable to vapors.

For structures that are air cooled during the summer, the "continuous skin" vapor seal on both surfaces of the exterior wall is also highly desirable.

Besides the usefulness of plastic spray as a vapor seal, this material makes a highly desirable interior wall finish, the use of which should not be restricted to the inside of exterior walls. It may be used wherever it is desirable to have a finish of better wearing qualities than paint or wallpaper. Pigmented with color-fast vinyl-plastic dispersions and sprayed on in thicknesses varying from 10 to 30 mils, plastic spray forms a jointless sheeting of attractive appearance, in performance very similar to the well known and widely used calendered vinyl-plastic sheetings which are cemented to walls. The most obvious advantage of the sprayed-on vinyl-plastic wall covering is the complete absence of joints and a better bond to the surface. Another advantage is that three-dimensional shapes can be covered without difficulty.

Mostly because of the simplified installation process, the plastic-spray wall coverings are considerably lower in cost than comparable cemented-on types.

In instances where the maintenance budget of a building is considered while selecting wall finishes, this new material will, over a period of years, actually produce considerable savings over paint. This fact is little by little being recognized by building owners. For instance, the New York Waldorf-Astoria Hotel has used plastic spray for a number of bathroom walls and ceilings, and one of the Henry Hudson hotels has made an even more extensive use of this material. Other significant applications are in the elevator lobbies of the new Lever House and the Knoll Associates New York showroom, as well as in various public areas of the new Trade Bank and Trust Company, also in New York.

The plastic spray is a logical sanitary finish for areas subjected to hard wear and undoubtedly it will be used widely in schools, hospitals, hotels, ships, public areas of apartment houses, and, to some extent, in homes. Considerable interest has been shown by architects already acquainted with this material, in its application on cinder or concrete block and on lightweight masonry materials such as precast wood-fiber cement panels, etc., in order to save plastering and painting and yet obtain smooth, washable surfaces. With some care to the treatment of the joints, practical and handsome surfaces may be obtained in this manner. When applied on plaster, the finish coat of plaster can be omitted, which results in further savings.

new architectural details

Besides the use of these new materials to cover entire exterior and interior building surfaces, there are numerous smaller applications where the combined characteristics of vinyl-plastic sheeting and its spray application permit the development of simplified architectural details. This technique stays entirely within the concept of conventional construction.

Membrane waterproofings, flashings, copings, and corrosion-protection of metals can be done advantageously by the plastic-

spray method. The plastic-spray gun will become a commonly used tool on construction jobs, and will eliminate the need for many expensive and elaborate details, saving considerable drafting and specification time for the architect.

prefabrication

Poor solutions of joint engineering have caused many systems of prefabrication to fail. The entirely new concept of waterproofing and vaporproofing joints on the surface, brought about by plastic spray, has most interesting possibilities for prefabricated civilian and military structures.

One system designed by the writer consists of shop-finishing panels with plastic spray, then coating the specially designed joint in the field by a simple vinyl-plastic application—it can even be applied by brush. Shop and field coats will fuse together to form a flexible "continuous skin."

industrial construction, mechanical work

In view of the excellent protection which vinyl-plastic provides against corrosion of any sort, the spray application of this material is of greatest interest to industries with either high humidity conditions (bakeries, dairies, laundries, etc.) or problems of acids, alkalis, salt spray, etc. Interiors, exteriors, ducts, hoods, tanks, and miscellaneous equipment may be lined with plastic spray. In New York's new Lever House, an air shaft built of cinder blocks is faced with this material.

Of special interest is the use of this material where radioactive radiation occurs. As a strippable film, this material is used extensively by the Atomic Energy Commission. Used as a permanent finish, it will greatly reduce the penetration of radiation into surfaces to which it is applied, and it may be cleaned with a solution of nitric acid and live steam after exposure. A recent development of pigmenting sprayable vinyl plastic with lead powder, permits the spraying of lead linings in areas to be protected (X-ray rooms, laboratories, etc., and also for civil defense purposes).

flooring

Plastic spray applied to heavy felt or foam rubber pads forms a highly resilient and sanitary wall-to-wall carpeting. Joints between the pads (these come in rolls up to 12′ widths) and the baseboard may be sprayed over so that the entire area, regardless of size, will form a waterproof and washable surface.

This flooring has approximately the same wearing qualities as linoleum and it is excellent for stores, hospital rooms, nurseries, halls, corridors, stairs, bathrooms, kitchens, etc.

fabrics

Vinyl plastics of the strippable types, sprayed on engraved, embossed, or textured surfaces, form very attractive three-dimensional sheetings when stripped off. Various structural-glass and embossed-metal designs are readily available for this purpose.

furniture

One of the most exciting applications of plastic spray is for upholstered furniture. Sprayed directly on foam rubber, it will mold its contours and form a seamless, washable, leatherlike cover, expressing the intended design shape in its purest form. Plastic spray is also an excellent finish for wood, metal, or fiber furniture as imperfections of surface or joint will not show in the finished piece. Color and washability suggest its use for children's furniture, store fixtures, etc.

sculptures

The quality of webbing of plastic spray which permits the spanning of open spaces up to 24″ has very interesting possibilities for sculptural applications, where the tension of materials defines pure geometric forms.

miscellaneous applications

Weatherfast outdoor movie screens can be obtained by spraying aluminum- and white-pigmented vinyl on stucco or concrete surfaces. The same material may be applied to interior walls which then become decorative washable surfaces, also fulfilling the function of projection screens.

Swimming pools of any type of construction may be lined with sprayed-on vinyl-plastic sheeting.

One manufacturer of insulating materials is considering a plan to enclose glass-fiber insulation with sprayed-on vinyl plastic in order to provide a vapor seal and to facilitate the handling of the material.

application

Despite similarities in the type of equipment used, the spraying of vinyl plastic requires a completely different technique than the spraying of paint, and the technique of plastic spraying may be considered as a new craft. In view of this fact, and because of the important function which plastic spray is to fulfill in new construction, this work should be performed only by highly trained craftsmen* available through contractors specializing in architectural applications of this material, such as 20th Century Builders of Tampa, Florida, or Progressive Industries, Inc., of New York. As to specifications, it is recommended that this work be specified in a separate section under the heading: Sprayed-on Vinyl-Plastic Sheetings.

The spraying is a very clean operation because the liquid plastic, even when atomized, does not form a mist. Therefore, operators do not have to wear face masks and only a few inches immediately adjacent to the sprayed area need to be covered or masked. The odor of the solvent, somewhat unpleasant during the spraying operation, dissipates completely within a few hours. The cured material has no odor or taste whatsoever and is absolutely non-toxic.

outlook for the future

Already, original design solutions based on this new material have come from the drafting boards of professionals. Twitchell and Rudolph's guest cottages at Sarasota, Florida, with their plastic-sprayed roofs curved under tension, are presented in the following P/A feature. Engineer Fred N. Severud, besides proposing this material for atomic blast blowout panels and partitions *(page 70, September 1951 P/A)*, is considering roofing an arena of a 330′ span by stressing wire mesh over a light-steel structure and spraying a vinyl-plastic roof directly on this mesh.

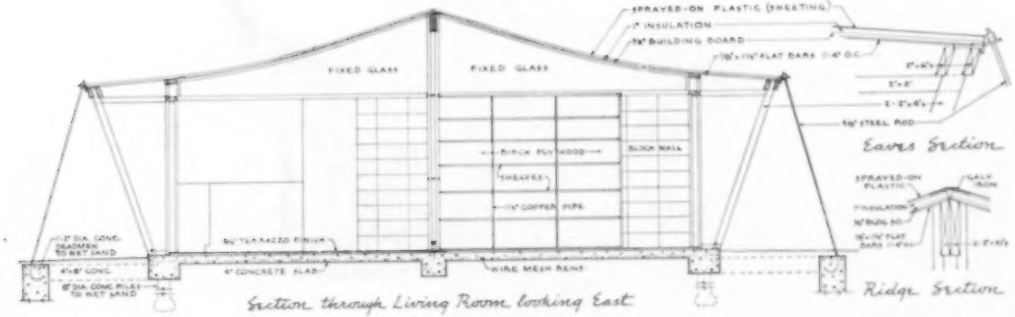
The often attempted perfect geometric form for "floating structures" on stilts can now be materialized with unbroken monolithic surfaces of even texture and controlled color on all planes of the structure.

Undoubtedly, plastic spray in the hands of designers with imagination, fully exploring the possibilities of this "new skin," will bring about great changes in the design, detailing, and construction of buildings.

*In New York City this work is generally performed by the cement finishers.

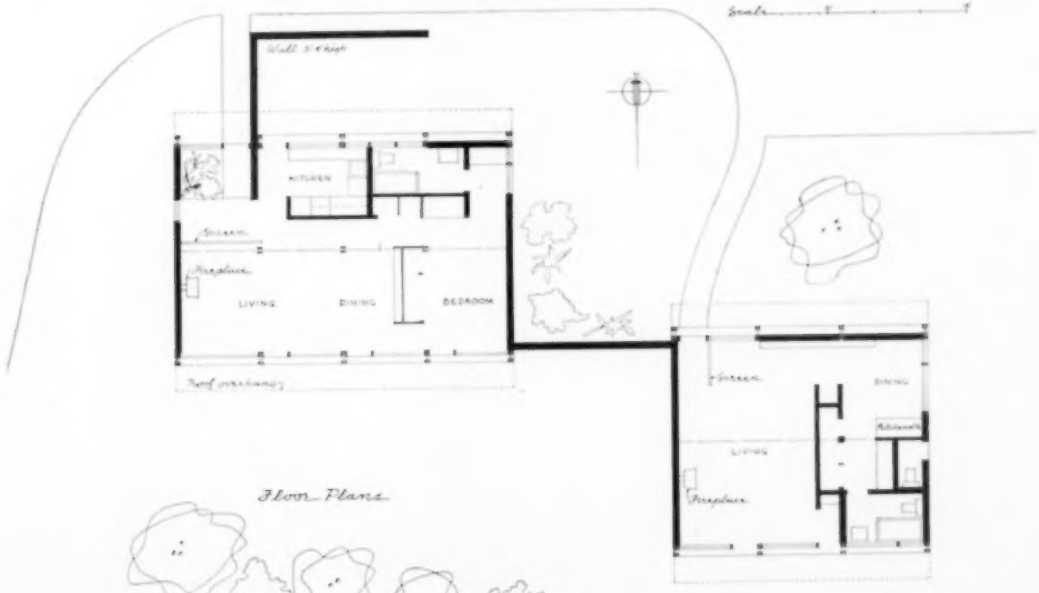
guest houses with plastic roofs

location	Sarasota, Florida
architects	Twitchell & Rudolph



Section through Living Room looking East

Scale



Floor Plans

One of the most recent architectural applications of sprayed-on plastic sheeting (pages 99-102) is in the construction of the roofs of these two small guest cottages that were built for rental on an estate on Siesta Key.

As indicated in the sectional drawing on the preceding page, the tent-like tension roofs are made up of catenary curves formed by flat ⅛" x 1½" mild steel bars, spaced 1'-4" on center, to which are clipped large sheets of ½" insulating building board, over which there is a 1" layer of glass-fiber insulation which, in turn, is surfaced with the sprayed-on vinyl plastic, 1/16" thick. Tension and compression members along the north and south walls of the structures are designed to compensate for the inward thrust of the roof. Soffits of the portions of roof that project beyond the building line are surfaced with plywood.

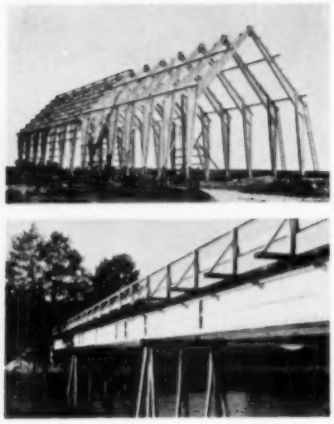
Opening out to the south to overlook a grove of beautiful oak trees, the cottages are so located that they cannot be seen from any other structures of the property —the main house, a studio, a swimming pool, and another guest house. Living privacy for each cottage derives from the staggered placement of the units.

The framing of the houses, which are built on reinforced-concrete grade-beams on piles to wet sand stratum is of post-and-lintel construction down the center, and along the north and south walls. Exterior masonry walls are of lime block, flooring is terrazzo, and partitions are plywood on standard stud frame. To assist air movement, certain window areas have operable glass jalousies in place of regular windows. Electric unit heaters and patented fireplaces supply the heat needed.

The two cottages are blended together by use of the same structural systems, general pattern of fenestration, and same materials. In the living room of the larger house (acrosspage and immediately below) the entrance is around a small interior garden, and the exterior walkway pattern extends inside the house. Photos: Jack Holmes

The west wall of the smaller cottage (two photos above), windowless except for the glazed gable end, and the offset placement, provide privacy for both units. The detail (below) shows the pattern of the curved plastic roof, insloping paired posts, and ⅝" steel tension rods that keep the whole structure in equilibrium.

HB-arches use standard timber sections



Examples of HB-construction in Sweden: Framework for a barn erected at Svalöf; span 40', height 43' (above). Decking for bridge over Viskan River at Rydal is carried on four HB-beams, continuous over piled supports; spans are 49', 66', and 49' respectively (below).

An unusual form of wood-beam construction that will carry heavy loads and span long distances economically was used recently in a recreation hall-theater at Naples, Maine. It is believed to be the first wood-truss framework of its kind to be erected in this country.

Known as the HB-beam system, this type of laminated wood trussing (formed of standard timber sections) is named after its inventor, Prof. Hilding Brosenius of the Royal Institute of Technology, Stockholm, who holds the patent in Sweden and in several other foreign countries. Since its inception in 1939, the system has been employed in the construction of over 2000 factories, schools, warehouses, aircraft hangars, theaters, bridges, and other diverse structures in many parts of the world. In their simplest form, the beams consist of laminated webbing (two layers of 1" boards nailed at right angles) flanked at top and bottom with a laminated flange. Dimensions are computed on the assumption that the flanges take the entire bending moment of the beam, and the web resists all of the shearing force. The carefully calculated methods of nailing are reported to achieve tangible savings in materials and labor, and, as well, eliminate the many tie rods and braces found in bolted structures, without loss of structural strength. The beams show considerable reductions in over-all dimensions and dead weight, as compared with timber-framed girders of equivalent strength. These factors contribute to easier handling and quicker erection; furthermore, the beams can be fabricated with ordinary woodworking tools.

The basic system of the HB-beam is extremely flexible; it may be applied to straight, flat-topped, and continuous spans, and to two- and three-hinged, rigid-frame arches. These arches can be fabricated to any roof pitch, any height, and for any loading that the building requires. Erec-

air and temperature control

Low-Cost Gravity Furnace: oil- or gas-fired warm-air furnace, with bonnet output of 75,000 Btu, designed primarily for low-cost housing. Casing measures 52" high, 22¼" wide, 28¼" deep; unit is factory assembled with full-sized bottom plate to prevent air leaks when installed on uneven floor. Delta Heating Corp., Trenton 8, N.J.

Horizontal Winter Air Conditioner, Type 253: oil-fired unit, available at present in one size only, 110,000 Btu; may be suspended as unit heater in all types of residential installations, also in garages, shops, schools, and other commercial buildings. Unit is completely up-draft in design; casing is lined with asbestos insulation laminated with aluminum foil, serving to reflect heat back into heat exchanger and also reduce noise. L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee, Wis.

Vertical Discharge Fan: "flat-as-a-flounder" design allows residential installation in lowest pitched roofs. Unit is framed of 1" seamless tubing, housed in heavy-gage steel, is installed unattached, riding vibration- and noise-free in foam rubber. Available in five sizes with either 1/3 or ½ hp motor. Murray Co. of Texas, 3200 Canton, Dallas 1, Tex.

Circle Air Electric Convection Heater: electric convector draws in cold air through lower vents of metal cabinet enclosure; air then passes around fins which warm it to desired temperature; upper vents of cabinet distribute warm air into room area. Unit can be recessed or set against wall. Suitable for heating entire house or sections only; may also be installed in stores, plants, new construction, etc. Paley Mfg. Corp., 244 Herkimer St., Brooklyn 16, N.Y.

Home Air Conditioner: compact summer air conditioner converts any forced warm-air heating system into all-year conditioning system; can be installed in either new or existing homes. Built in 2, 3, and 5 hp models; heavy glass-fiber insulation used throughout for thermal and sound insulation. U. S. Air Conditioning Corp., 3300 Como Ave., S.E., Minneapolis, Minn.

doors and windows

Insulux Panel-Vent: glass block ventilator, for installation in glass-block paneling; consists of actual half-block in pattern matching surrounding panel blocks, and hinge which swings outward whenever ventilation is desired. Aluminum screen on inside keeps out insects. Can also be used alone with concrete, brick, or other materials to provide ventilation for hallway, garage, closet, bathroom, etc. No special tools or equipment needed to install. American Structural Products Co., Nicholas Bldg., Toledo 1, Ohio.

Ra-Tox Shades: made of strong, resilient, basswood slats woven together with heavy-duty seine twine into rugged, durable fabric, said to outwear shades made of cloth or similar materials; resists rain, sunlight, grease, fumes, dirt, and abuse. Originally designed for industrial use, now available for school applications. Wide range of colors, including natural finish. Hough Shade Corp., Janesville, Wis.

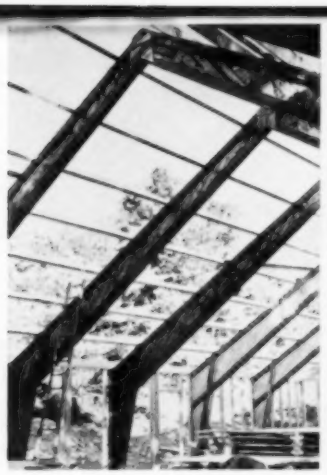
Pella Wood Folding Door: fully assembled "accordion" door that folds against door jamb, consists of wood panels, 3⅝" wide x ⅜" thick, joined together by series of concealed hinges acting as springs; door is supported at top by metal track. Available in sizes up to 12' in height and 20' in width. Rolscreen Co., Pella, Iowa.

electrical equipment, lighting

PB Electri-Center: general purpose circuit breaker, for use in commercial and industrial buildings for control of lighting and appliance circuits. Basic unit contains box, interior, two 15 amp. and two 20 amp. breakers; additional breakers, filler plates, and fronts (flush and surface) are supplied at time of purchase to suit specific needs. Available in 14 or 20 circuits. BullDog Electric Products Co., 7610 Joseph Campau St., Detroit 32, Mich.

"Chieftain" Commercial Fixtures: line of open-type fluorescent fixtures, finished with two coats of baked enamel and individually phosphatized to provide maximum resistance to oxidation in installations where extreme humidity prevails. Adaptable to all types of mounting. Gibson Mfg. Co., Atlanta, Ga.

Hinged Drum Fixture, Series 1100: incandescent fixture, enclosed in glass "drum" bowl, utilizes ventilating and insulating device that insures cool operation and prevents ceiling discoloration and breakdown of insulation; particularly suitable for areas where continuous lighting operation is necessary. Especially designed hinges simplify lamp replacements, eliminating necessity of re-



Progress photos of recreation hall-theater at Naples, Maine. Design data for beams: 3-hinge type, 11'-6" on center; 48' span with 12' cantilever for porch-roof and 24' height from floor to crown. Flanges are 2" x 6" Douglas fir while webs consist of two layers of 1" x 6" local spruce. Portable saw and hammers were only equipment used to make the trusses. Photos: Roger Flint

tion of HB-structures is achieved with movable cranes, derricks, or winches. Scarcely any staging is necessary.

HB beams may also be used for portal and arch frames; transportation difficulties, however, preclude complete fabrication before delivery. To overcome this, a special angle construction has been developed which allows the frame to be erected on site from prefab straight sections. The beams are delivered in lengths of approximately 80' and joined at the job, usually only by a simple nailing process. The design of a satisfactory large splice joint makes the construction of beams exceeding a 300' free span a relatively simple matter.

The roof trusses in the Naples theater (*above*) were constructed by a Maine builder from plans sent by the HSB Building Association of Sweden, especially for that building. John M. Dennerlein, New York architectural designer of the theater, is the exclusive agent in this country for the HSB Building Association; his address: 209-45 112 Ave., Queens Village, N.Y.

moving glass bowl. Gruber Brothers, Inc., 125 S. First St., Brooklyn 11, N.Y.

Continuous "T" Lights: weatherproof, continuous, horizontal fluorescent fixtures, completely wired for immediate installation, for outdoor use. Units are 30" wide, in 4' and 8' lengths, can be fitted to existing poles, or come already equipped with manufacturer's 9' or 12' standards. Guardian Light Co., 301 Lake St., Oak Park, Ill.

2ATW Big Beam Emergency Light: 2-lamp unit provides instant automatic floodlighting for minimum of 4 hours in event of regular power failure; charged to capacity at all times by means of enclosed, automatic trickle charger; equipped with fast charger which recharges battery after emergency use. U-C Lite Mfg. Co., 1050 W. Hubbard St., Chicago, Ill.

finishers and protectors

Colorizer Brick and Stucco Finish: one-coat paint for use on masonry surfaces (stucco, brick, concrete, cinder block, etc.), may be applied directly without need for special priming or sealing coat. Paint permits transmission of moisture through paint film without breaking down film itself, so that any dampness penetrating through paint can escape. Can be applied by brush, roller, or spray-gun. Colorizer Associates, Inc., 345 North Western Ave., Chicago, Ill.

Odorless Paints: full line of odorless, interior oil-based paints, available in gloss, semi-gloss, flat, enamel, floor paint, and varnish, in large selection of colors. Keystone Paint & Varnish Corp., 71 Otsego St., Brooklyn, N.Y.

Concrete Floor Hardener No. 860: clear, colorless liquid forms dense, nonporous, flint-like surface on concrete floors to withstand extra heavy traffic; easily applied by brush or mop. Recommended for use in warehouses, garages, schools, institutions, and factories. Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio.

Apex Anti-Rust Paint: aluminum paint for application over rusted surfaces (no wire brushing or scraping necessary) to prevent further rust action. Recommended for protection and preservation of new metal against future rust attacks. One-coat coverage sufficient, even over black surfaces. Paramount Industrial Products Co., University Center Station, Cleveland 6, Ohio.

Hydrocide S.X Colorless: invisible penetrating water-repellent silicone compound for all types of above-grade, porous masonry; sheds dirt, controls efflorescence, will not discolor or wear away. L. Sonneborn Sons, Inc., Building Products Div., 80 8th Ave., New York 11, N.Y.

sanitation, water supply, drainage

Electro-Matic Water Softener: automatic, home water softener, electrically operated, enables homemaker to reduce soap consumption by as much as 80%, depending on hardness of water supply. Unit contains special water-softening resin element, "Permutit Q," and simplified valve assembly which reduces number of moving parts, thus simplifying service problems. Manufactured in two sizes. Permutit Co., 330 W. 42 St., New York 36, N.Y.

Model "B" 4" Electric Submersible Pump: packaged, $\frac{3}{4}$ hp unit developed especially for domestic water supply system. Operation is noiseless since pump and motor operate completely under water. Compact size permits its use in wells as small as 4" in diameter; capacities range from 520 gph at 150 ft. to 100 gph at 320 ft. Sumo Pumps, Inc., 375 Fairfield Ave., Stamford, Conn.

specialized equipment

"N" Line of Surveying Instruments: new, moderately-priced line consists of four instruments: convertible transit-level, heavy-duty 12" Dumpy level, service transit-level (farm level), and hand level. Constructed of brass and bronze; simpified design combines rugged construction plus precision required by builders' and contractors' applications. C. L. Berger & Sons, Inc., 37 Williams St., Boston 19, Mass.

Upright Freeze Pantry: 19 cu. ft. home freezer stores 665 lbs. of food, yet occupies less than 1 sq. yd. of floor space. Among other desirable features, are electronic warning alarm and signal light that guard against food spoilage should temperature rise for any reason. No special installation required; plug fits into any 110v a-c outlet. Ryan Industries, Refrigerator Div., 1025 Excelsior Ave. E, Hopkins, Minn.

pa MANUFACTURERS' LITERATURE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

★ **1-178. Remotaire Room Conditioner,** AIA 30-F-1 (25?), 24-p. engineering manual on room conditioner, providing summer cooling and winter heating, for multiple installation on unit system. Technical data, selection, specifications, cooling selection charts, piping diagram, nominal ratings, index. American Radiator & Standard Sanitary Corp., Bessemer Bldg., Pittsburgh 30, Pa.

1-179. Commercial Refrigeration (350), 10-p. catalog. Illustrations of various types of coolers (walk-in, reach-in, wall-mounted, etc.), defrosting units, ice-makers, fin and tube coils, and other commercial refrigeration products. Recommendations, dimensions, specifications, connection sizes, photos, drawings, engineering data. Bush Mfg. Co., West Hartford, Conn.

1-180. Ess Air-Conditioning Smoke Indicators (521), 4-p. bulletin describing three types of smoke-control alarm systems that automatically stop air circulation within air-conditioning ducts and give visual or audible signals at first sign of smoke; acts as guard against panic hazards, fire and smoke damage. Features, mounting diagrams, photos. Ess Instrument Co., 96 S. Washington Ave., Bergenfield, N. J.

1-181. National Fintube Convectors, AIA 30-C-4 (587), 4-p. brochure. Information on convectors, using heating elements of steel fins on steel pipe, for installation in hospitals, schools, factories, or business offices. Design, steam and hot water ratings, roughing-in dimensions. National Radiator Co., Johnstown, Pa.

1-182. Preferred Unit Steam Generator (2000), 26-p. bulletin giving detailed description of heavy-duty, self-contained, portable steam plant fired by light or heavy oil, natural or manufactured gas; combination gas and oil units available. Components, advantages, data and dimension chart, views. Preferred Utilities Mfg. Corp., 1860 Broadway, New York 23, N.Y.

★ **1-183. Air Handling, Air Cleaning, Air Conditioning** (600), 60 p. catalog offering complete line of equipment for air-conditioning and air-handling systems. Industrial uses, application charts, capacity and dimension tables, engineering data, photos, drawings, cross-reference index. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

construction

3-151. Precast Prestressed Concrete Slabs, AIA 4-K, 8-p. bulletin on hollow-core building slabs, capable of clearing spans up to 26', for roofs and floors. Diagrams illustrating uses with all types of construction; load chart, advantages, specifications, new ways of installing heating systems, including two hot-water radiant methods and a warm-air split system that combines circulating air with radiant floor. Flexicore Co., Inc., 1932 E. Monument Ave., Dayton 1, Ohio.

3-152. Concrete Masonry Handbook, AIA 10-C (P27), 64-p. manual designed to assist architects, engineers, and builders in designing or constructing masonry buildings that meet modern requirements, varying with purpose of building. Latest recommended practices in concrete masonry construction, suggested details, technical information based in field and research laboratory, photos, drawings, bibliography. Portland Cement Assn., 33 W. Grand Ave., Chicago 10, Ill.

3-153. Rilco Glued Laminated Wood, AIA 19-B-3, 16-p. booklet. Types and applications of glued, laminated wood (Douglas fir or Southern yellow pine) arches, beams, and trusses. Sectional dimension table, typical details and other drawings, specifications, photos. Rilco Laminated Products, Inc., 1st National Bank Bldg., St. Paul 1, Minn.

doors and windows

4-182. Aluminum Windows, 24-p. booklet containing latest specifications for double-hung, casement, projected, and awning type aluminum windows in residential and commercial applications; includes specifications covering both standard and modular sizes. Photos of actual installations. Aluminum Window Manufacturers Assn., 74 Trinity Pl., New York 6, N.Y.

4-183. Use Marble Window Stools, 4-p. folder illustrating step-by-step method of setting marble window stools which can be used with any type of sash—wood, steel, or aluminum. Details of window installations in various types of wall construction. Carthage Marble Corp., Carthage, Mo.

4-184. For New Design Flexibility (G2287), 4-p. folder showing in detail the daylighting function of new 12" light-directing and light-diffusing glass block, also of 8" glass block. Recommended elevations, advantages. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

4-185. Doorways to Happier Living (H 41), 16-p. brochure. Pictorial guide to proper selection of door, window, and cabinet hardware. Styles, photos. The Stanley Works, New Britain, Conn.

4-186. Steel Windows and Doors, AIA 16E (1952), 111-p. catalog. Specifications and installation details given on complete line of residential, commercial, industrial, and institutional steel windows and doors. Construction data, types and sizes, photos, thumb index. Truscon Steel Co., 1300 Albert St., Youngstown 1, Ohio.

4-187. SLI-D-O-O-R (1137), 4-p. folder describing prefab, ready-to-install sliding doors made of laminated wood-flake panels guaranteed not to warp; equipped with all necessary hardware. Dimensions of two- and three-door units, advantages, applications, installation data. U.S. Plywood Corp., 55 W. 44 St., New York, N. Y.

4-188. 62% More Overhead Daylight, 8-p. booklet on dome skylight units available in clear or light-diffusing Plexiglas, for roof installations. Sizes and shapes, applications, details, specifications, dimensions. Wasco Flashing Co., 87 Fawcett St., Cambridge, Mass.

electrical equipment, lighting

5-121. Electric Availability Important to Architectural Design, 16-p. booklet. Recommended layout plans for wiring devices in residential living areas, for convenient plugging of electrical appliances. Types of devices, uses, illustrations. Arrow-Hart & Hegeman Electric Co., Hartford Co., Hartford 6, Conn.

5-122. Exit Lighting, AIA 31-F-2 (E51), 8-p. catalog supplement containing 31 distinct types of electric, directional signs for hospitals, schools, hotels, churches, theaters, etc. Data regarding letter height, over-all length, height, and fixture width. Gruber Brothers, Inc., 125 S. First St., Brooklyn 11, N.Y.

5-123. Auxiliary Electric Power for Public Utilities (A-292), 8-p. folder. Types and sizes of electric plants suitable for every public utility need. Specifications given for units from 400w to 5000w size in both a-c and d-c models; also brief descriptions of housed standby plants and automatic controls; photos. D. W. Onan & Sons, Inc., 2500 University Ave., S.E., Minneapolis 5, Minn.

5-124. Engineered Lighting, AIA 31-F (3-52), 32-p. catalog. Technical data given on full line of commercial and industrial fluorescent light fixtures and accessories. Construction, features, finish, mounting information, drawings. Wm. Penn Fluorescent Light Mfrs., 1429 S. 23 St., Philadelphia 46, Pa.

5-125. Flex-A-Power (TEB-2), 50-p. catalog. Detailed information on various types of trolley busways, each of which serves specific distribution system requirements. Design characteristics, features, application ad-

vantages, dimensional data, typical specifications, photos. Trumbull Electric Mfg. Co., 1936 Woodford Ave., Plainville, Conn.

★ **5-126. Street Lighting** (B-5460), 84-p. engineering guide to design of street lighting systems. Analyses of design procedures, roadway illumination computations, and electrical distribution systems; sample problems and solutions, maintenance and its cost, charts, diagrams, photographs, glossary of street lighting terms. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

finishers and protectors

6-72. ACP Phosphate Coating Chemicals and Processes (915), 12-p. bulletin explaining types and uses of chemical coatings for paint bonding, rust proofing, and for protection of surfaces subject to friction. Methods of application, photos, index. American Chemical Paint Co., Ambler, Pa.

6-73. Redwood Staining, AIA 25-B-12, 4-p. folder giving specifications for staining and waxing of redwood interiors and exteriors. List of simplified stain wax formulations, color chart. Samuel Cabot, Inc., 141 Milk St., Boston 9, Mass.

6-74. Waterproofing — Exterior, Above Grade, AIA 3-B-1 (BP 3051), 4-p. folder. Technical data guide for protective treatment of exterior concrete and masonry walls by application of Hydrocide SX (invisible water repellent silicone product). Advantages, summary of performance test. L. Sonneborn Sons, Inc., 300 Fourth Ave., New York, N.Y.

insulation (thermal, acoustic)

9-76. Cellufoam, 4-p. booklet. General information on lightweight, semi-rigid board, formed of wood-fiber insulating and acoustical material, with low "k" factor of 0.26; is mold- and fungus-proofed. Types of applications, standard sizes, heat conductivity chart, photos. Masonite Corp., Cellufoam Products Div., 111 W. Washington St., Chicago 2, Ill.

9-77. Textured and Perforated Acoustical Tile, AIA 39-B, 8-p. bulletin covering variety of glass fiber acoustical materials, including textured, perforated, and plastic-faced tiles, rigid boards, and batting. Application data, sound absorption coefficients, specifications. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo, Ohio.

9-78. Roof Decks and Roof Insulation, AIA 4-E-13; 37-B-2 (CA-2), 12-p. booklet. Uses of insulating vermiculite concrete in roof deck construction. Advantages, properties, specifications, sectional drawings, photos. Zonolite Co., 135 S. La Salle St., Chicago, Ill.

sanitation, water supply, drainage

19-252. Emergency Showers and Decontamination Showers, AIA 29-H-3 (30), 6-p. folder. Three models of emergency showers using especial methods of spraying water rapidly to quench fire, dilute and remove contaminating chemicals from clothing or human body. Construction, operation, photos. Logan Emergency Showers, Inc., Glendale, Calif.

19-253. Boiler Water Level Controls and Safety Devices (SC-2), 24-p catalog offering wide selection and application of safety devices—low-water fuel cut-offs, float-operated switches, temperature and pressure relief valves, etc.—for steam and hot water boilers. Capacity curves, dimension drawings, engineering data. McDonnell & Miller, Inc., 3500 N. Spaulding Ave., Chicago 18, Ill.

specialized equipment

19-254. Brutex (A-2029), 4-p. folder describing new tracing cloth, resurfaced to a velvet matte finish that will receive graphite from hardest pencil grades; will not smudge under ordinary use, yet is easily erased without "ghosting." Advantages. Charles Bruning Co., Teterboro, N.J.

Two booklets, one on hospital equipment layout, illustrated with photos; the other describes basic equipment for physician's treatment room—patient's tables, instrument and sterilizer cabinets, waste receptacles, operator's stools, etc. Color plates, prices. A. S. Aloe Co., 1831 Olive St., St. Louis 3, Mo.:

19-255. Hospital Equipment Layout and Planning Service

19-256. Design Achievement in Treatment Room Furniture

19-257. Thermatic System (T), 8-p. bulletin describing automatic process control system for surgical sterilizers, which insures safe standardization of time-temperature performance, mechanical accuracy, and safety for patients; readily adaptable to both old and new sterilizer installations, geared to accommodate all types of loads. Safety and other features, operational data, photos. Wilmot Castle Co., 1255 University Ave., Rochester 7, N.Y.

19-258. Institutional Cabinets and Casework, 4-p. folder showing typical applications of wood cabinetry and casework in institutional areas. Specifications, photos. Wood-Metal Industries, Inc., 101 Park Ave., New York 17, N.Y.

surfacing materials

19-259. Alberene Stone Laboratory Equipment, 12-p. brochure illustrating use of chemical-resistant Alberene stone as material for laboratory table tops, shelving, sinks, splash backs, drainboards, and related equipment. Properties, design consideration, construction details, specifications, typical sections, installation photos. Alberene Stone Corp. of Virginia, 419 Fourth Ave., New York, N.Y.

19-260. Tiles and Faience, AIA 23A, 16-p. catalog presenting groups of imported and domestic faience and decorative, hand-made tiles, all designed by international ceramic artists. Illustrations, sizes. Vanderlaan Tile Co., 103 Park Ave., New York, N. Y.

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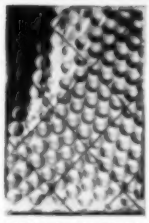

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patients' rooms

by Eugene D. Rosenfeld, M.D.*

Most hospital administrators would be happy to have the interior design of hospitals handled by professionals. The decoration and equipment of patients' rooms, in particular, have long been the exclusive province of well meaning volunteers—often the Ladies' Auxiliary. Professional advice is badly needed in color treatment, furnishing, lighting, accessories, and materials used in the patient areas of hospitals. The patient's room is no longer just a way-station to the operating room, but rather a patient's temporary home on his road to recovery. As such, it deserves at least the same attention as that given to the interior design of a home, or even an office, or public building.

From the administrator's point of view, the patient's room should be of such simplicity of design as to require a minimum of maintenance and housekeeping, while offering the patient an optimum of care and comfort.

All fixtures should be flush-mounted; window and door frames and bucks should be as flush with the wall as possible; exposed radiation and interior sills should be eliminated; all oxygen outlets, suction outlets, electrical receptacles, intercommunication equipment should be flush-mounted with stainless steel plates (or some other easily maintained material); all wall-to-wall and wall-to-ceiling joints should be smooth and without moldings.

Ceilings are best treated with some easily maintained, soundproofed surface, and painted a subdued eggshell (or off-white). Ceilings, walls, and floors should always be treated with a material that can be washed easily and will not streak. Walls, in particular, require a material, such as some of the new plastics, which will not stain, crack, chip or mar when beds or other items of equipment are thrust against them. Painted walls must be refurbished every two or three years; investment in durable and appropriate wall covering is economical in the long run and an esthetically important step.

Flooring is always a difficult problem—one that has yet to be satisfactorily solved. A satisfactory hospital floor should combine easy maintenance, sound deadening, resiliency, longevity, and attractiveness. A floor that mars or shows footprints, that catches dust and dirt, that needs frequent polishing is to be avoided. Slick, highly polished floors are dangerous, particularly in patients' rooms. Probably the best material available, but one of the most expensive as well, is cork. The floor coverings most widely used in hospitals today are asphalt or rubber tiles, or linoleums with flush-cove bases. Such floors are satisfactory and certainly preferable to wood, carpeting, or most other types.

Lighting of patients' rooms is seldom given enough thought. It would be of great interest (and therapeutically valuable, perhaps) if experimentation in hospital lighting were encouraged to determine the effect of various intensities, hues, and tints upon hospitalized patients, their rates of recovery, their response to therapy, etc. Perhaps, a rheostatically controlled system regulating hue, intensity, and color will some day be standard equipment in hospitals and available as a therapeutic device. Present-day patients' rooms all too frequently contain overhead fixtures and exposed lamps which are disturbing to bedridden people. Indirect lighting is always desirable. Floor lamps, found so often in hospital rooms, are hazardous; cords get in the way or become frayed and eventually become fire hazards. If proper sources of light are provided for reading, safety, and examination purposes, general illumination may be kept at a minimum. For these purposes, wall-mounted *lamps*, with direct and indirect beams, using fluorescent bulbs of the new daylight variety, so designed as to yield general and specific illumination, best meet the requirements. They have the additional advantage of not producing heat and, of course, use less electricity. Lighting should be controllable both by the patient and the nurse, and adequate night and safety lights are needed in a patient's room.

In designing the furniture and accessories for patients' rooms, thought should be given to the scale of the furnishings in relation to the room. The present trend is toward lighter, smaller pieces and in-the-wall storage units. It is vital that all materials used in hospital furniture be fireproof, stainproof, chip-proof and devoid of unnecessary frills, carvings, surfaces, and joints. A minimum number of pieces, consistent with actual needs and esthetic sensibilities, should be used. Overcrowded rooms are a danger to patient and staff, require more upkeep, and are generally unattractive. The average patient requires only a catch-spring-equipped bed, a bedside table in which most of the utensils for patients' care can be stored, an overbed table-vanity combination, a rubber mat covered stool, and several chairs for visitors.

Fabrics for draperies, curtains, and upholstery should be carefully chosen for durability and beauty. Those which are flammable, dust-catching or difficult to keep clean should be avoided. We should not be afraid to use color in hospital rooms, to harmonize color schemes, to attempt to achieve esthetically attractive effects. Paintings, sculpture, and ceramics, intelligently used, would help reduce the atmosphere of cold sterility of the hospital room of the past.

The ideal patient's room—the administrator's dream room—would be a single-bed room which could be converted to a two-, three-, or four-bed room in a few seconds when it is desirable for a patient to have company. It would be inexpensive to build, equip, maintain, and service. It would satisfy the esthetic needs of the patient, the staff, and visitor alike. It would seldom have to be re-equipped, refurnished or re-decorated; yet it would always look new, clean, fresh, and attractive. It would have a pleasant view, be soundproofed, air conditioned, and so designed that color harmony and lighting could be modified at will. All the necessary equipment for complete nursing service of the patient would be immediately at hand, in properly designed storage units, but the room would look like a well designed combination sitting and bedroom, rather than a traditional hospital room. The equipment and furnishings would be so designed as to encourage a maximum of self-service by the patient, and at the same time allow maximum servicing of the patient by nursing and medical staffs, without unnecessary energy expenditure. The room would be equipped with safety devices, modern audio-visual communication equipment and passive as well as active signal systems, so that self-endangering movements by the patient would immediately summon the nurse. It would be isolated from the hospital hubbub and situated off quiet corridors, but could open up, through windows and flexible walls, to project the patient into a wider environment. This room is worth striving for, even if it can never be attained.

*Executive Director, The Long Island Jewish Hospital

p/a interior design data

patients' rooms

	model room—typical double bedroom
location	Mt. Zion Hospital—San Francisco, Calif.
architects	Milton T. Pflueger and Skidmore, Owings & Merrill
contractor	Engineers Limited

double-hung window

This is one of those rare instances where the hospital architects were given complete control in the design of the patient's room. The strikingly pleasant environment speaks well for this approach. Although we know that the choice of one night table or another is not the most crucial aspect in the design of a hospital room, it is a fact that the architect can create that harmony which results from approaching the interior as a whole. On looking at this room, one is immediately impressed by its taste and design integration. Certainly the bed would work as well with less handsome end panels and certainly there are other chairs as comfortable; but these are discriminating choices—not only for comfort and ease of maintenance but also for compatibility, good looks, and the serenity that is right for a patient's room.

An adequate-sized room is made to seem larger by the generous windows and the overhang, which is painted the ceiling

bed curtain, stainless steel rods

bed lamp

bed can be patient-operated

bedside cabinet

overbed table has lift-lid mirror and compartment

color. The double-hung window is out of line with the patients and accessible to the nurse, even when the cubicle is enclosed. Main lighting is from the fluorescent bed lamps which direct light above for general illumination and below for reading. On the wall opposite, there is a night light, operated by a switch at the door. The wardrobe at entry has two identical closets, each containing hanging space, drawers for folding wear, shelves for blankets, and a compartment above for suitcases. Heating is by tempered air through the grille over the entry and by convector type radiator under the windows.

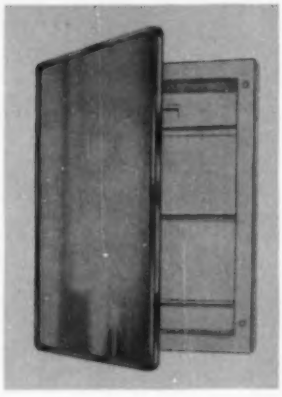
All walls are painted gray-green. One washable fabric which matches the wall color is used for curtains and bedspreads. Ceiling is white, floor is black asphalt tile, and wood is birch. The floor in the bathroom is green mat-finished ceramic tile. Window shades are linen. All metal is brushed chrome, aluminum, or stainless steel. *Room Photos: Roger Sturtevant*

patients' rooms

Mt. Zion Hospital—San Francisco, Calif

continued

bathroom lighting fixture



medicine cabinet

Keene's cement

mat-finish ceramic tile

offset hinge

double wardrobe recessed at entrance

The model room was a laboratory for the architects and hospital staff. After being submitted to rigorous tests, the following revisions were made:

Wardrobe was relocated to provide more clearance. In its original position opposite bathroom door, it was found to be in the way when beds and wheeled stretchers were moved in and out of the room. Room side of wardrobe was also found to be vulnerable when furniture was moved.

Offset hinges were put on corridor door for complete clearance when opened and bathroom wall was brought forward to form a recess for the door at wardrobe.

Bathroom door was placed on room side with three ordinary hinges. In original arrangement, door swung into bathroom because of the restricted space in entry. It was necessary to design a special door stop, installed in the jamb, in case patient was trapped in bath or fainted against door. Special door stop and double acting hinges were considered complicated and expensive.

Bathroom was reduced and enclosed with partitions only 3" instead of 6". This made possible a wider entry and more space between bed and bathroom when oxygen cabinet was used.

End of projecting wall was protected by stainless-steel edge casing.

A cabinet for patients' personal medicines was substituted for the mirror.

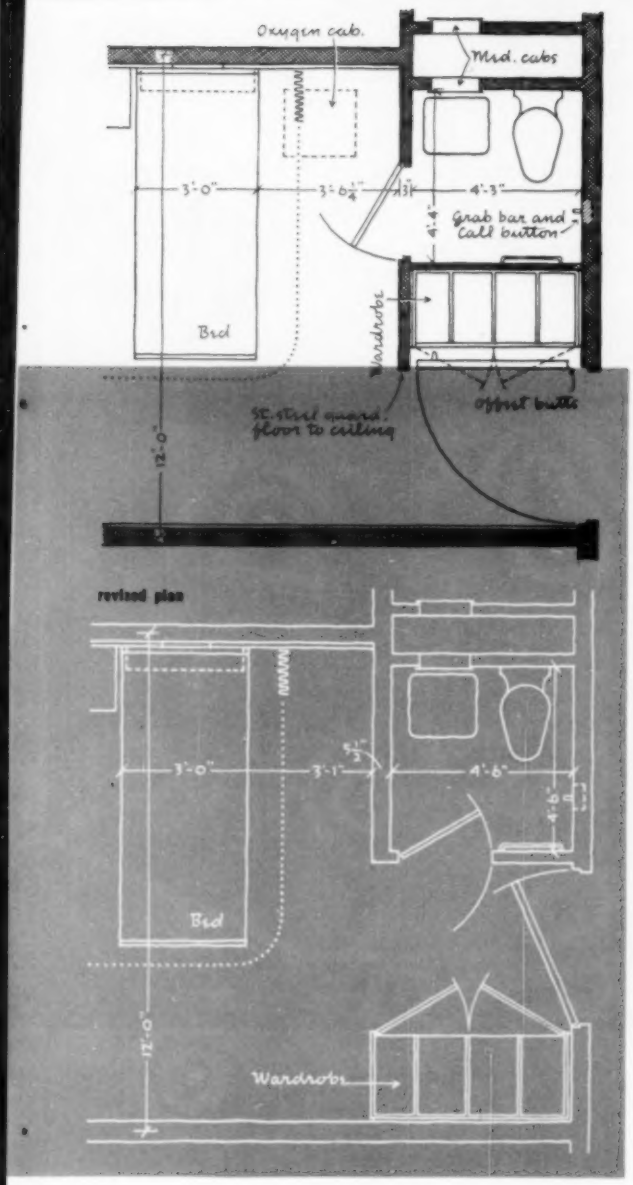
The water closet was raised 2" higher than conventional height.

Towel rod was increased from 18" to 24", so that towel and wet wash cloth need not be placed over each other.

A projecting member was added to the base along bed wall, to protect plaster from beds and bedside tables.

A valance was considered desirable, to cover window shade rollers.

An outlet for a wall receptacle was



first plan

added to wall opposite bed, because fluorescent bed lamps cast an unflattering pallor when used alone.

To clear traction bars, bed lamps and nurses' call plates were raised.

A central oxygen outlet was added to the over-bed plates.

Room was painted a lighter green.

The deck outside window was painted forest green to minimize reflected glare.

To give a sense of protection and to make it safer for window washing, flower boxes were added to the outer edge of deck. Drain for overhang could be combined with drainage for flower boxes.

data

Bathroom Fixtures: Crane Co., 836 S. Michigan Ave., Chicago 5, Ill./ 301 Brannan St., San Francisco, Calif.

Bed: H-817-I-L-190/ patient-operated "All Purpose Bed"/ 35½" x 86"/ price range about $104.00 to $140.00 dependent on quantity and zone/ Simmons Co., 1 Park Ave., New York 16, N. Y./ Merchandise Mart Plaza, Chicago 54, Ill./ 353 Jones Ave., N. W., Atlanta 1, Ga./ 295 Bay St., San Francisco 11, Calif.

Bedspread: #302540/ "Sea Green"/ cotton, mohair, and rayon mixture/ 76" wide/ list: $5.80 per yd./ Goodall Fabrics Inc., 1355 Market St., San Francisco, Calif./ 525 Madison Ave., New York 22, N. Y.

Cabinet: (bathroom) #2050/ "Master Junior Model"/ 20¼" x 28¼"/ white enameled steel and stainless frame/ list: $35.80/ Miami Cabinet Division, The Philip Carey Mfg. Co., Middletown, Ohio.

Cabinet: (between beds) discontinued.

Cabinet (built-in wardrobe) architect-designed/ birch doors, drawers, and adjustable shelves/ The Fink & Shindler Co., 552 Brannan St., San Francisco, Calif.

Cabinet Hardware: (built-in wardrobe) architect-designed/ E. M. Hundley Hardware Co., 662 Mission St., San Francisco, Calif.

Ceiling: plaster painted white.

Chair: #51C/ Alvar Aalto design/ birch frame with curly birch laminated seat and back/ list: $51.00/ Finsven, 670 Madison Ave., New York, N. Y.

Curtains: same fabric as bedspread.

Curtain Track and Hardware: Grant Pulley and Hardware Co., 31-85 Whitestone Pkwy., Flushing, N. Y.

Doors: Fush/ birch plywood.

Door Hardware: (bathroom) "Mercury"/ dull chrome 5" backset design/ The Schlage Lock Co., 2201 Bayshore Blvd., San Francisco, Calif./ 350 Fifth Ave., New York, N. Y.

Door Hardware: (entrance door hinge) LA-475/ special extra heavy 5" throw-back hinge/ Stanley Works, New Britain, Conn.

Door Hardware: (entrance door p/lt) Glenn Johnson, Laporte, Ind.

Floor: (bathroom) ceramic tile/ pastel green/ mat-finish/ Clean Tile Co., Olean, N. Y.

Floor Covering: B 204/ "Grand Antique"/ "Kentile"/ black/ David E. Kennedy, 58 Second Ave., Brooklyn, N. Y.

Lighting Fixture: (bathroom) #7271/ 18½" long x 3" wide/ extension 4½"/ "Color Corrected" fluorescent/ 2 light-15W lamps/ "Alachrome" and white/ keyless/ list: $15.90/ Lightolier, 11 E. 36 St., New York, N. Y.

Lighting Fixture: (overbed lamp) architect-designed/ stainless-steel with 2 lamp fluorescent/ 4-way switch activated by pull chain/ for direct and indirect light/ California Electric Supply Co., 1485 Folsom St., San Francisco, Calif.

Lighting Fixture: (recessed) dull chrome/ exposed ring/ Sunbeam Inc., 777 E. 14 Pl., Los Angeles, Calif.

Paints and Finishers: W. P. Fuller & Co., 135 N. Los Angeles St., Los Angeles 53, Calif.

Shelf: birch/ Morris Cabinet & Fixture Co., San Francisco, Calif.

Table: (overbed) #614/ single pedestal/ 34" x 14"/ adjustable height from 28" to 43"/ laminated plastic top/ lift-lid mirror with vanity compartment under/ Hill-Rom Co., Inc., Batesville, Ind.

Walls: plaster painted gray-green (bathroom) Keene's cement painted gray-green.

Windows: (sash) Brannan St. Planing Mill, San Francisco, Calif.

Windows: (glass) W. P. Fuller & Co.

Window Screen: "KoolShade Sunscreen"/ bronze louvers set at 17° angle/ aluminum, wood, or "Quik-on" frame/ Ingersoll Products Div., Borg Warner Corp., 321 Plymouth Ct., Chicago 4, Ill.

p/a interior design data

patients' rooms

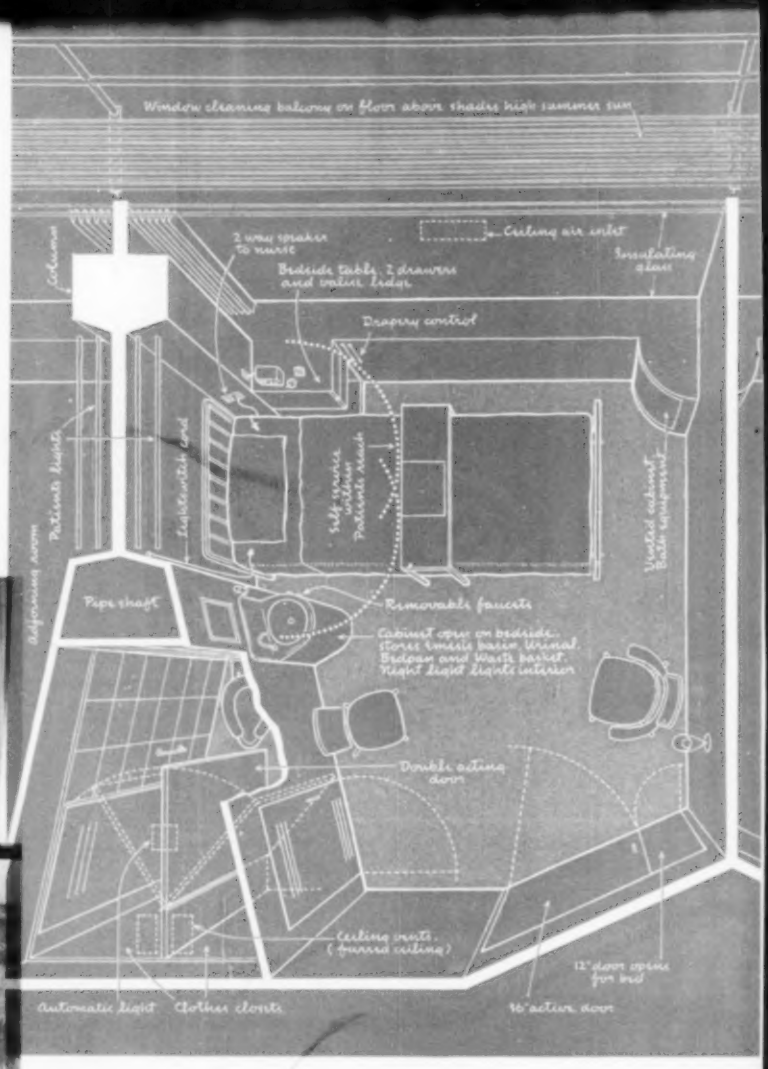
data

Cabinets: built-in/ architect-designed/ birch with slate top/ Boston Milling Co., Harrison Ave., Boston, Mass.

Floor Covering: asphalt tile/ C-752/ terra cotta/ Hood Rubber Co., Watertown 72, Mass.

Wall Covering: "Hawthorne"/ #6524/ 24" wide/ 100 sq. ft. per roll 12½ cents per sq. ft./ United Wallpaper Inc., Merchandise Mart, Chicago 54 Ill.

Windows: "Twindow"/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.


Window cleaning balcony on floor above shades high summer sun
2 way speaker to nurse
Ceiling air outlet
Insulating glass
Bedside table, 2 drawers and outlet ledge
Drapery control
Columns
Patients light
Self storage within Patients reach
Recessed cabinet Bottle compartment
Adjoining room
Pipe shaft
Removable faucets
Cabinet open on bedside... stores towels basin, urinal, Bedpan and wash basin. Night light Light inside
Double acting door
Ceiling vents (recessed ceiling)
12" door opens for bed
Automatic light
Clothes closets
36" active door

	model room—single bedroom
location	Peter Bent Brigham Hospital—Boston, Mass.
architects	Markus & Nocka
contractor	Chandler Construction Company

A pressing need for low-cost private and semi-private accommodations was the spur behind the development of this prototype for Peter Bent Brigham. The answer was to design the most minimal room with maximum self-help facilities. Concern is not so much with perfect colors, finishes, and furniture as with economy without sacrifice to comfort or a pleasant environment.

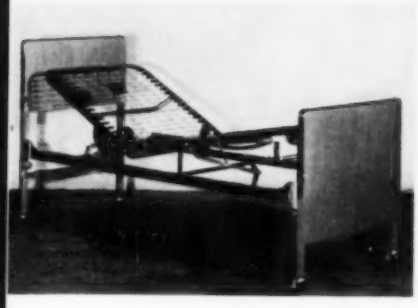
Walls are angled, corners utilized, and door swings carefully manipulated to achieve a room that totals only 112 square feet. The result compares favorably with the conventional standard which is 30% larger. To create a sense of spaciousness, the outside wall from bed level to ceiling and from wall to wall is a single sheet of insulating glass. A continuous catwalk of rectangular bars at each floor level shades the room from summer sun and simplifies window cleaning. The room is mechanically ventilated and all piping (electric, telephone, plumbing, oxygen, etc.) is housed in a single service core. Since walls are free of piping, these need be only 2½" thick—a further space saver. For a double room, a curtain takes the place of the non-structural partition.

Adjacent to the patient are lavatory, drawers for personal belongings, lamp and curtain controls, and a two-way speaker to the nurse. Thus, self-help is encouraged for ordinary routine and nurses are freed for more crucial tasks. The wide sill is slate, the floor is asphalt tile, and the wall opposite the bed is covered with a washable patterned paper in greens, brown, and yellow. Other walls are painted to match the gray-green background of the paper, floor is terra cotta, and curtains are yellow. All furniture is hospital selected.

Photos: Creative Photographers Inc.

	typical single bedroom
location	Crossett Hospital—Crossett, Ark.
architect	William Lescaze
consultants	Neergaard, Agnew & Craig
contractor	Peterson, Garbi & Joseph Inc.

This room is typical of the 50-bed hospital that is part of a rural health center. Though economically built, the rooms are well appointed with comfortable beds of simple variety, generous wardrobe space, and overbed tables that boast multi uses. Colors are green and gray for south rooms, tan and gray for north. Plans, exterior, and public spaces were shown in July 1951 P/A. *Photo: R. Neil Rhodes*



data

Bed: H-817-I-L-190/ self-adjusting/ 35½" x 86"/ price range: about $104.00 to $140.00 dependent on quantity and zone/ Simmons Co., 1 Park Ave., New York 16, N. Y./ Merchandise Mart Plaza, Chicago 54, Ill./ 353 Jones Ave., N. W., Atlanta 1, Ga./ 295 Bay St., San Francisco 11, Calif.

Cabinet: (built-in wardrobe) architect-designed/ birch plywood natural finish/ Alto Mills Texarkana, Arkansas, Tex.

Chair: Simmons Co.

Floor Covering: "Kentile"/ David E. Kennedy, 58 Second Ave., Brooklyn, N. Y.

Lighting Fixture: (floor lamp) Faries Mfg. Co., 1037 E. Grand Ave., Decatur, Ill.

Lighting Fixture: (wall bracket) #964/ Peters Jr. Model R/ Luminous Equipment Co., 900 W. Van Buren St., Chicago 7, Ill.

Paints: "Wallhide"/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Table: (overbed) F-881-F/ "Formica" top/ 14½" x 48¼"/ adjustable height from 34⅛" to 52½"/ double acting center with mirror on underside/ list: $70.00 to $84.00 dependent on quantity and zone/ Simmons Co.

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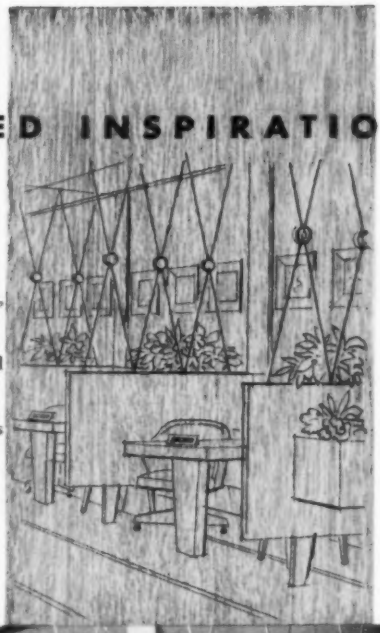

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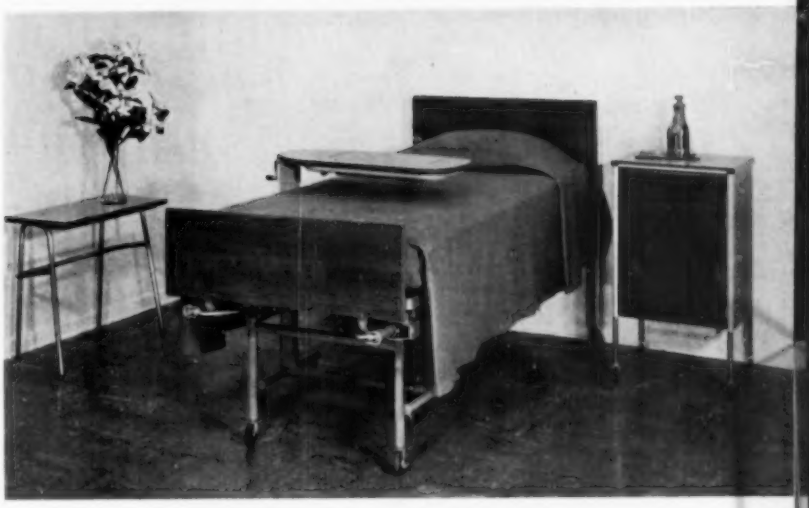
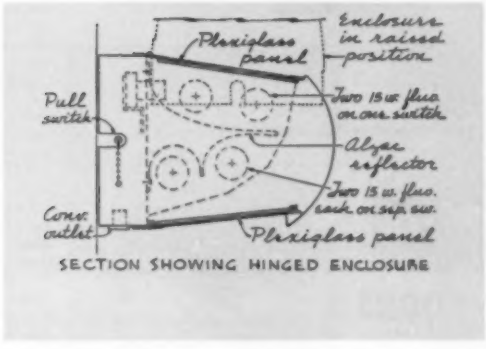


Bedside Cabinet #20 NA has multi-purpose features and careful detailing typical of "Hill-Rom Modern." Unit usable from front and back/ formed aluminum two-way drawer with rift oak front/ swinging arm for use as overbed table/ aluminum back panel and hinged towel rod/ front (not shown) has rift oak door to compartment with shelf and expanded metal bottom/ legs aluminum/ top and swing arm laminated plastic on oak/ **size:** 20" wide x 17" deep x 36" high/ **approx. $53.00/ The Hill-Rom Co., Batesville, Ind.**

"Hill-Rom Modern" is a new and handsome answer to hospital furniture needs. The extensive line was designed by Harry Weese, architect and Fran J. Burst, head of Hill-Rom's design department. Included are a large variety of storage units, beds, tables, and chairs thoughtfully detailed to suit the function, maintenance, and visual requirements of hospital rooms. Furniture is a combination of anodized aluminum and "pencil stripe" American walnut or rift oak/ exposed edges banded with matching solid wood/ all tops laminated with cigarette-proof plastic/ **Shown: Bed:** #10/ 3' x 7'/ ball bearing casters/ **approx.: $5.00/ Bedside Cabinet:** #10 NA/ 20" wide x 17" deep x 36" high/ formed aluminum drawer/ slide-out shelf under/ cabinet with shelf, basin ring, and expanded metal bottom/ reversible door/ aluminum back panel with hinged towel rod/ **approx.: $62.00/ Flower Table:** #10/ also for use as writing table/ 14" x 30" x 27" high/ **approx.: $26.00/ Overbed Table:** #614/ 34" x 14" with adjustable height from 28" to 43"/ lift-lid center section with mirror on underside and compartment below/ **approx.: $47.00/ The Hill-Rom Co., Inc., Batesville, Ind. Prices for Hill-Rom hospital furniture are approximate retail for the Eastern district. These are subject to variation according to locality and quantity. Inquiries for exact prices are recommended.**



SECTION SHOWING HINGED ENCLOSURE

New Hospital Lighting Fixture #B27-786 specified for patients' rooms at Montefiore and L. I. Jewish Hospitals/ designed by H. M. Van Duzer and J. George Blumenthal, lighting engineers/ 5" x 19"/ 4—15w. fluorescent lamps/ "Alzac" reflector/ polymerized white metal with "Plexiglas" top and bottom panels hinged for access/ individual controls for direct and indirect light/ **net:** $30.00/ **Lightolier, 11 E. 36 St., New York, N. Y.**

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Executive Secretarial Desk: #501BM/ natural-finish birch with plastic laminated-birch top and satin-black metal frame/ **main top:** 60" x 28" x 29" high/ **typewriter top:** 36" x 17" x 24½" high/ **two-drawer pedestal:** top drawer with lock, one permanent partition and stationery dividers; lower drawer with "pendaflex" file/ **three-drawer pedestal:** top drawer with sliding pencil tray, center drawer with two removable partitions/ **list:** $585.00/ #501PM has gray linen plastic top and lists for $570.00/ a smaller secretarial desk lists for $488.50/ all models also available with walnut base/ **Posture Chair:** designed by Saarinen/ adjustable back and seat/ tilt control for forward or back position/ cast aluminum-swivel base/ **Knoll Associates.**

Sash Light: shatterproof "Resolite"/ translucent flat-plastic sheets in standard and special sizes/ 70% polyester resins reinforced with 30% glass fibers. (Owens-Corning Fiberglas mat) said to resist severe vibration, concussion, radiant heat, and other causes of glass pane breakage/ also unaffected by extreme weather, fumes, acids, or alkalies/ for glazing partitions sizes up to 42" x 96"/ sheets or lights cut to specified size at factory/ 8 standard colors/ installed as glass/ **Resolite Corp., Zelienople, Pa.**

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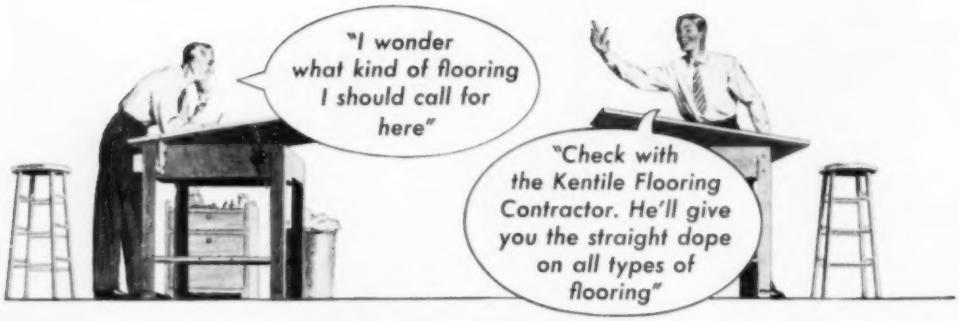
Lamps from a new group of six designed by George Nelson for the Howard Miller Company, Zeeland, Mich. Lastex stretched over a wire frame is removable for washing. Frames are welded and rubber-tipped. **Shown: #H953** (hexagon) 10" wide x 19½" long x 14" high over-all/ black frame with white-and-red lastex shades or white frame with white-and-green/ **approx. retail:** $21.95/ **#H955** (rectangle) 8½" x 8½" x 22" high/ black frame with blue-and-white lastex panels or white frame with red-and-white/ can also be horizontally hung/ **approx. retail:** $19.95/ **#H-956**/12½" cube/ black frame with all-white shade or white frame with blue-and-white/ can be wall hung/ **approx. retail:** $19.95/ **National Distributor: Richards Morgenthau, 225 Fifth Ave., New York, N. Y.**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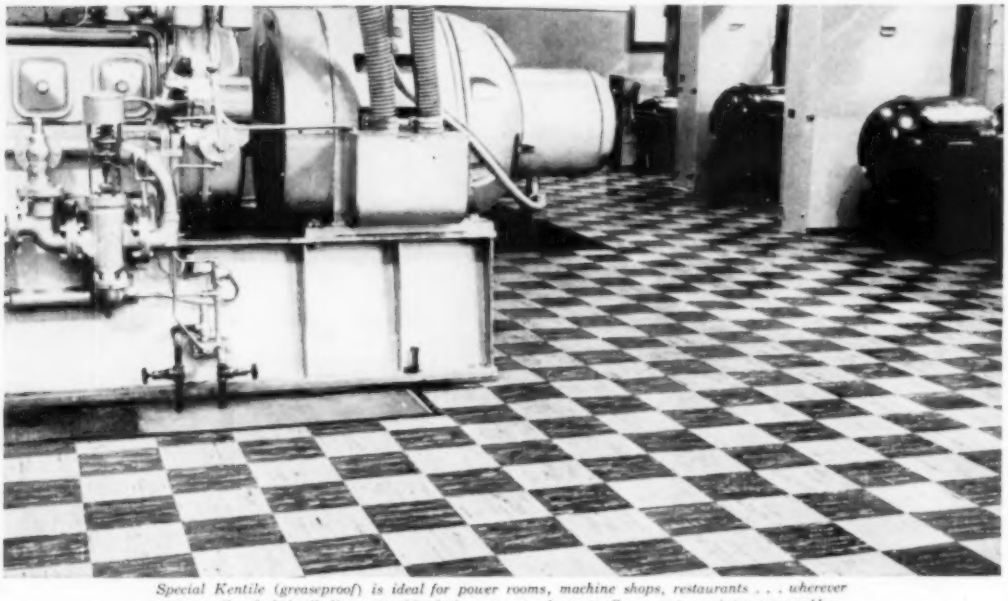

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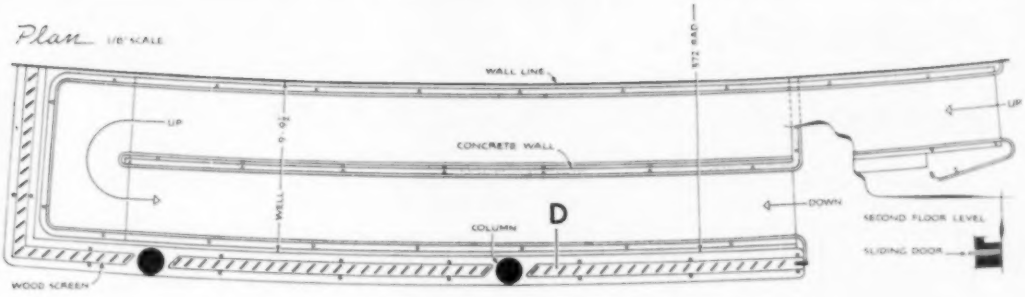

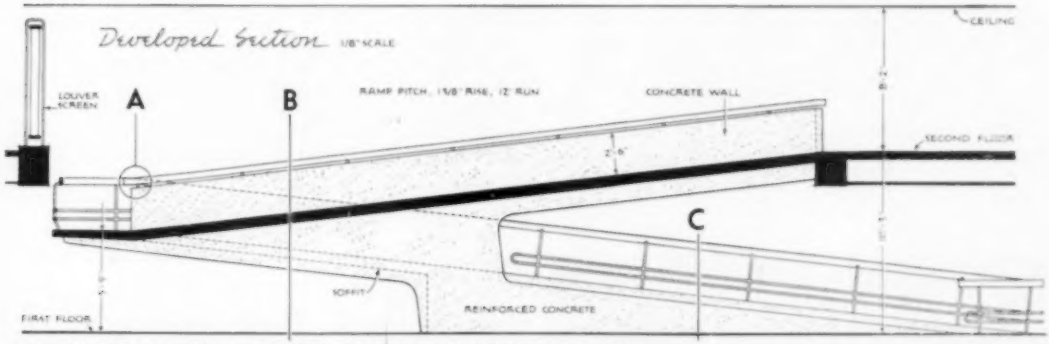

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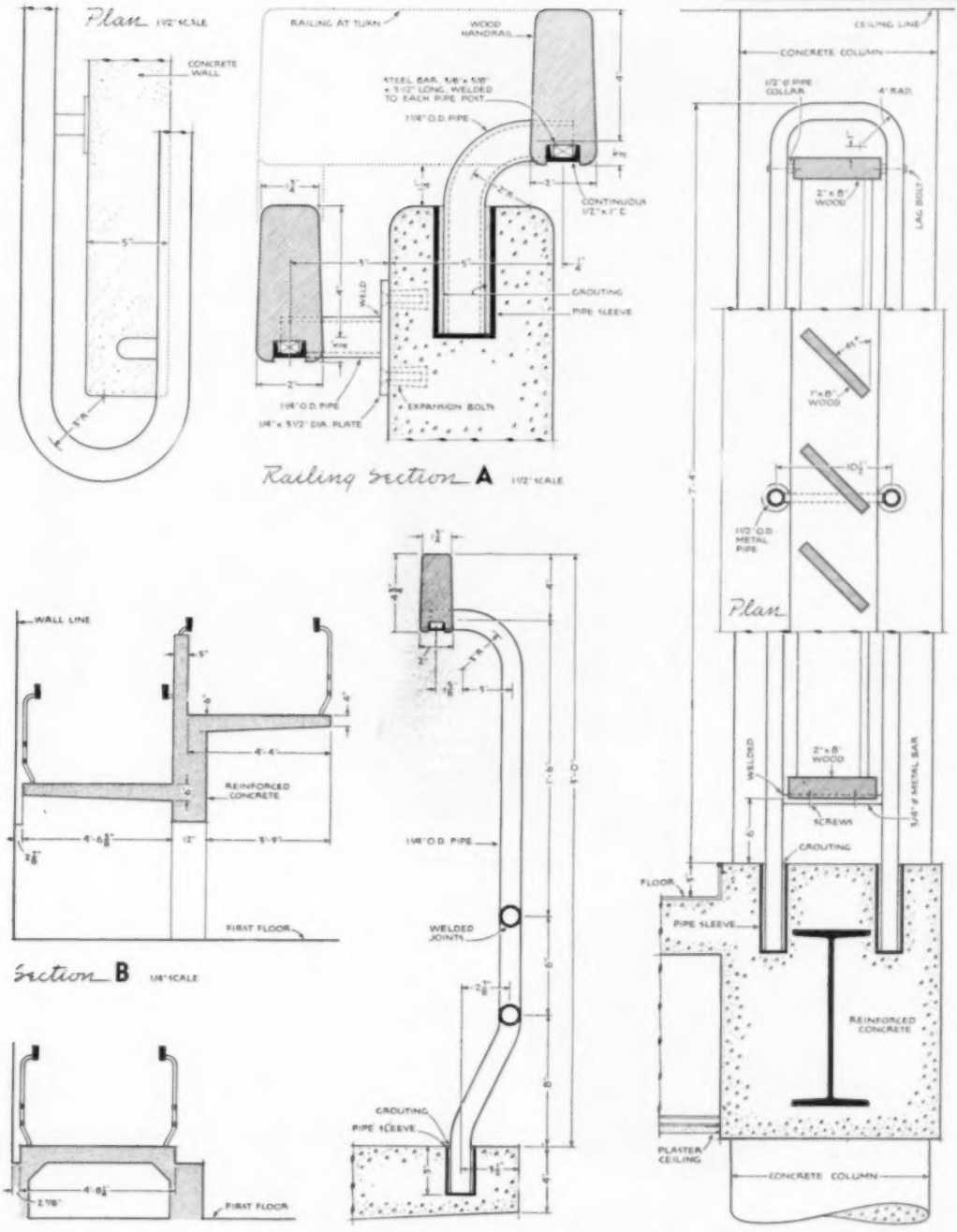

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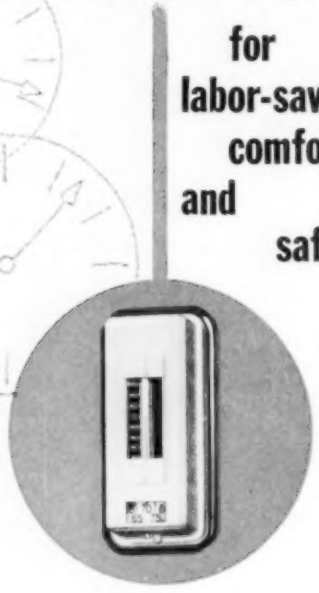

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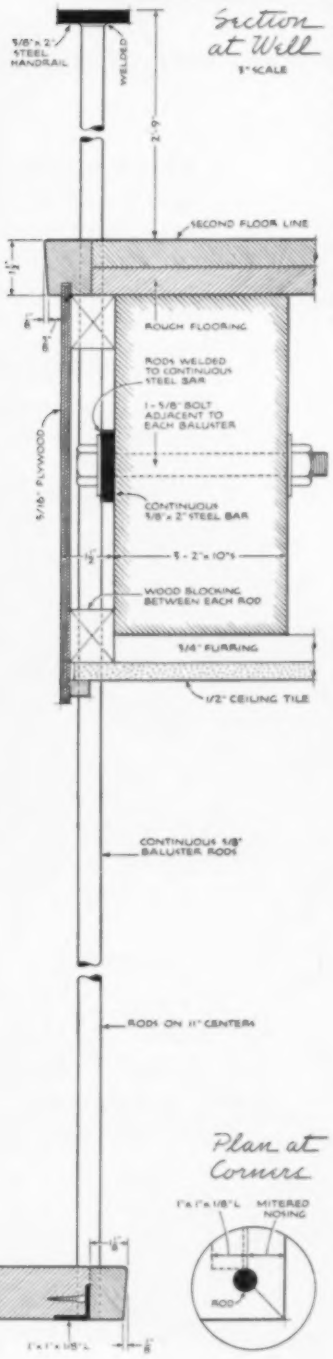

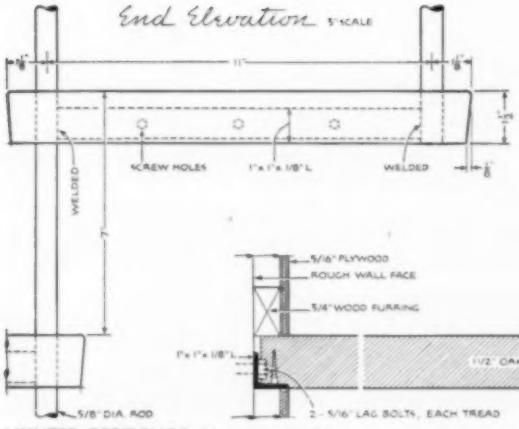

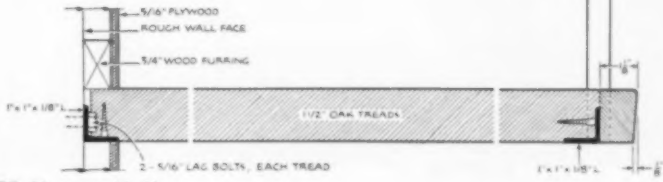

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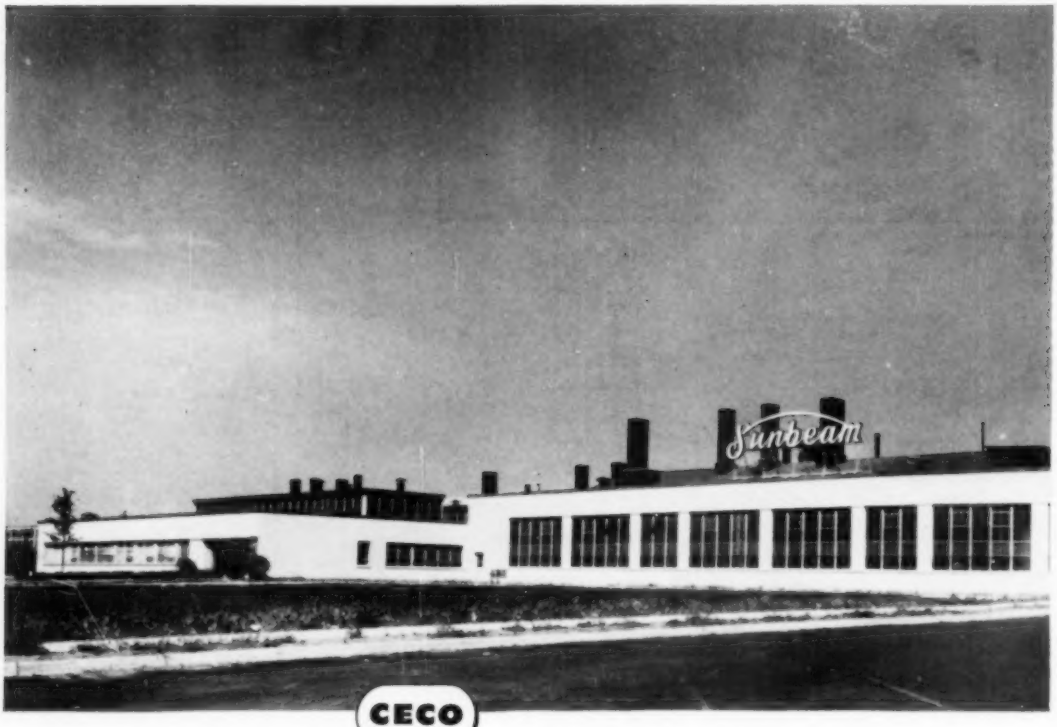

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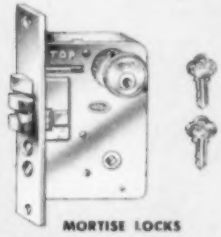

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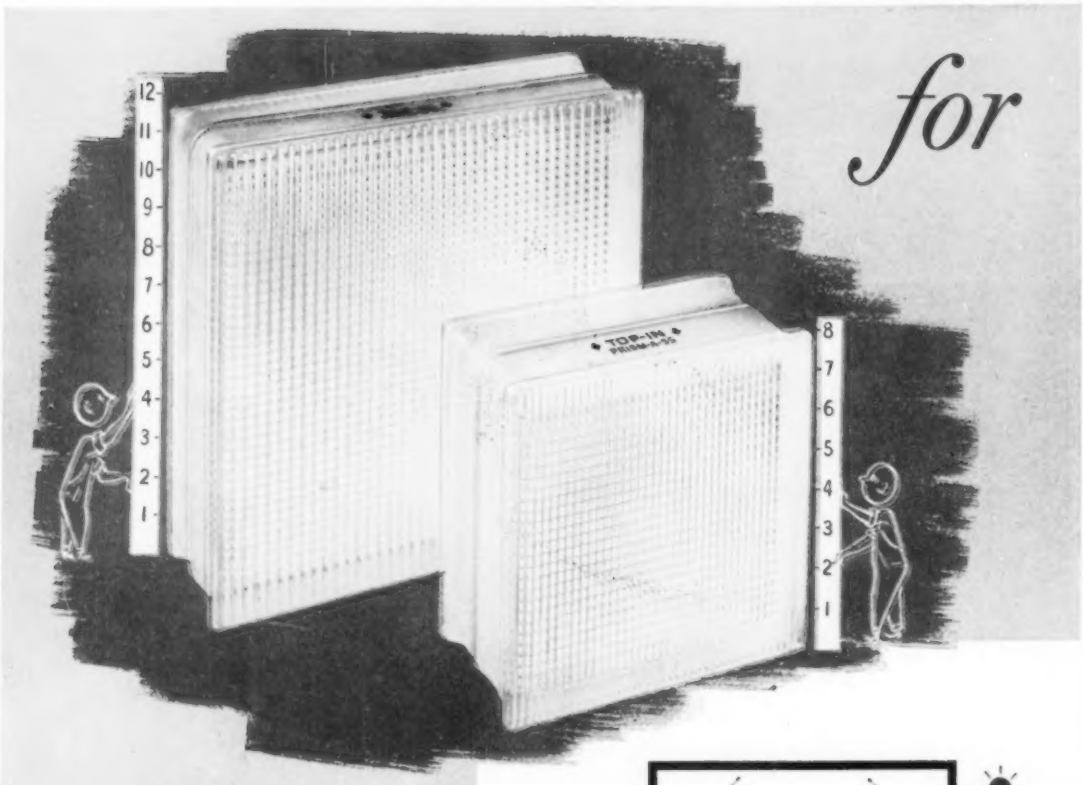

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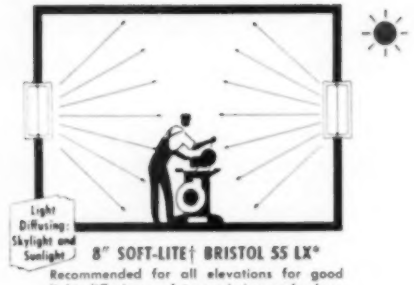

8" SOFT-LITE† BRISTOL 55 LX*

Recommended for all elevations for good light diffusion and transmission and where good thermal insulation is important.

8" SOFT-LITE† PRISM B 55
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Recommended for sun-elevations where good daylighting and glare control for critical seeing tasks are important.

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The diagrams on these pages indicate correct application of both 8″ and 12″ sizes for each elevation. PC Glass Blocks are available in both light-directing and light-diffusing patterns.

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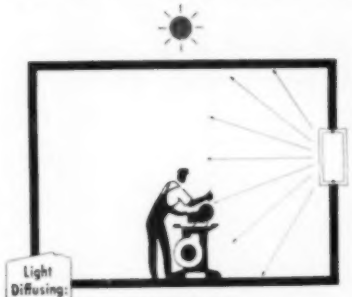
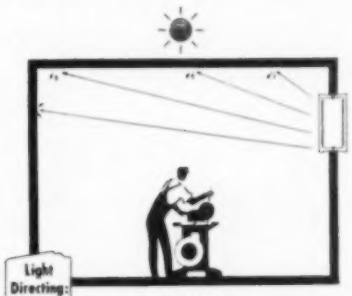


8″ BRISTOL 55

Recommended for non-sun elevations where moderate glare control is required.



8″ PRISM A 55
12″ PRISM A 55

Recommended for non-sun elevations where good daylighting and moderate glare control for critical seeing tasks are important.

8″ SOFT-LITE† ESSEX B 55
12″ SOFT-LITE† ESSEX B 55 LX*

Recommended for sun elevations where good glare control is required.

*Double cavity block with fibrous glass screen insert. †T. M. Reg. Applied for.

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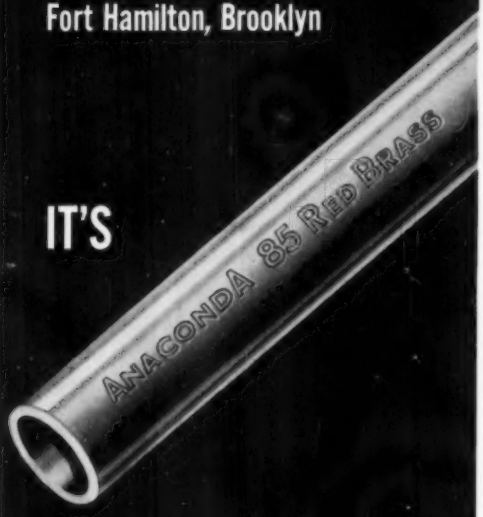

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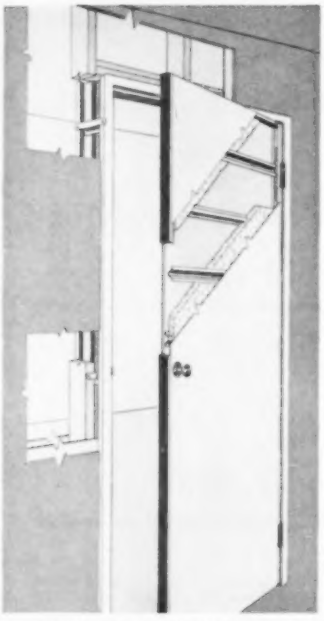

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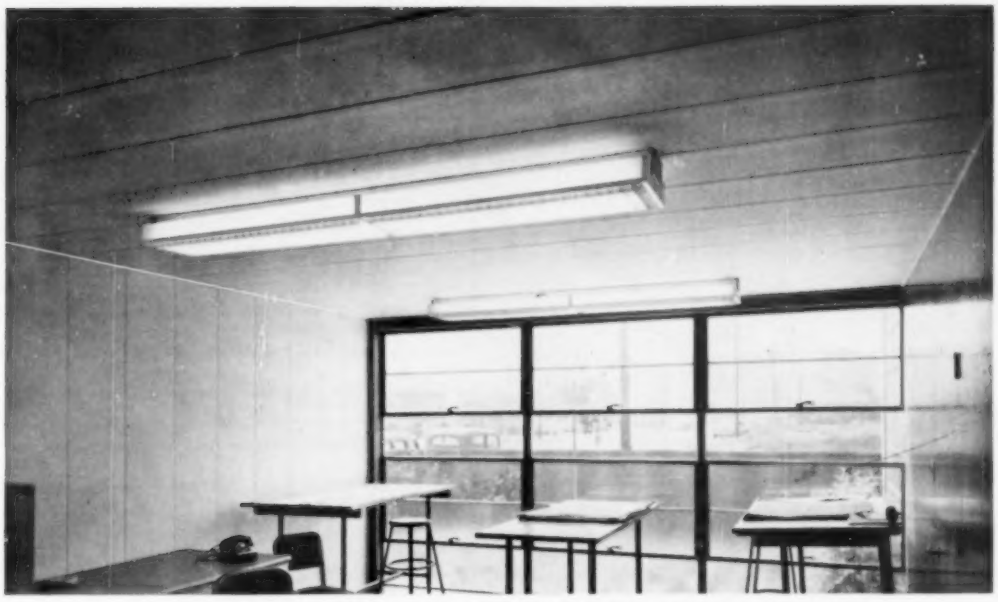

Combination Acoustical-Structural Ceiling of Fenestra "AD" Panels in Architectural Office—Walter R. Steyer Office Bldg., Los Angeles, California. The side wall at left is Fenestra "C" Panels. *Architect-Contractor:* Walter R. Steyer.

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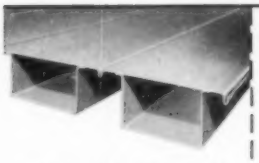
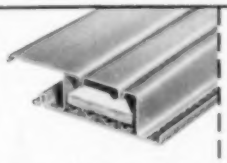
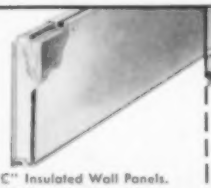


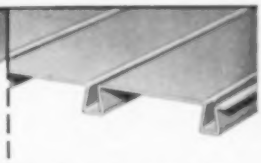
"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".

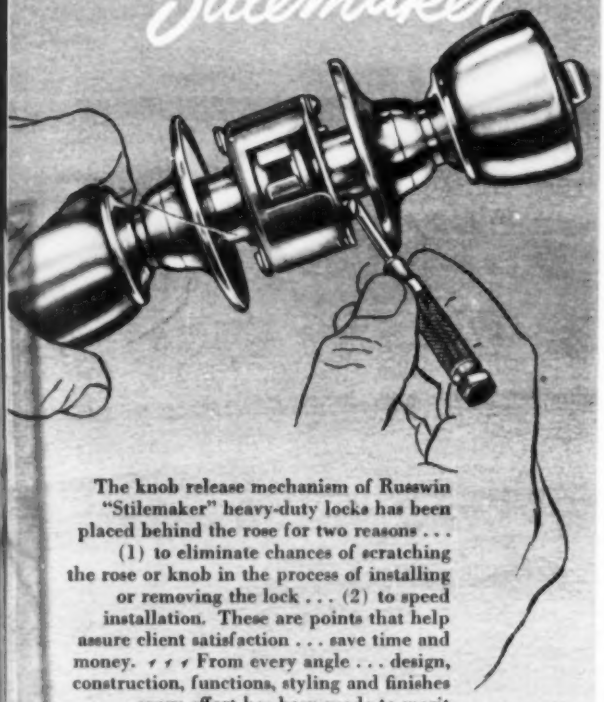


"C" Insulated Wall Panels. Standard width 16". The depth is 3".



Holorib Roof Deck. 18" wide—lengths up to 24'. Surface can be plain or acoustical.

A good point to remember about the Russwin "Stilemaker"



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pa REVIEWS

books received

Modern Furnishings for the Home. William J. Hennessey. Reinhold Publishing Corp., 330 W. 42 St., New York, N. Y., 1952. 296 pp., illus., $10

Building Trades Blueprint Reading and Sketching. Basic course. Delmar Publishers Inc., Albany, N. Y., 1952. 193 pp., illus., $3.25

Bauen Mit Glas. Otto Valckers. Julius Hoffman Verlag, Stuttgart, Germany. U. S. Distributors: Architectural Book Publishing Co., Inc., 112 W. 46 St., New York 19, N. Y. 184 pp., illus., $7.50

Fire Tests of Steel Columns Protected With Siliceous Aggregate Concrete. U. S. Department of Commerce, Building Materials and Structures Report 124, Washington 25, D. C., 1951. 12 pp., 15 cents

Plastics in Building. Joseph B. Singer. The Architectural Press, 9-13 Queen Annes Gate, S.W. 1, London, England, 1952. 192 pp., illus., 18s

Sunset Patio Book. Lane Publishing Co., Menlo Park, Calif., 1952. 174 pp., illus., $2

Impressions Respecting New Orleans. Benjamin Henry Boneval Latrobe. Columbia University Press, 2960 Broadway, New York, N.Y., 1951. 196 pp., illus., $8.75

Louis Sullivan. Hugh Morrison. Peter Smith, 321 Fifth Ave., New York, N. Y. 391 pp., illus., $5

Architects' Year Book 4. Jane B. Drew, Trevor Dannatt, Editors; E. Maxwell Fry, Herbert Read, Ove N. Arup, Editorial Board, Paul Elek, 10 Bell Moor, London, N. W. 3, England, 1952. 296 pp., illus., $11

cycles of the slums

Housing Market Behavior in a Declining Area: Long-Term Changes in Inventory and Utilization of Housing on New York's Lower East Side. *Leo Grebler. Columbia University Press, 2960 Broadway, 1952. 265 pp. $4.50*

The Lower East Side of Manhattan was the scene, during the last quarter of the 19th Century, of the most intensive settlement of immigrants in any single part of this country. The tens of thousands of families from southern and eastern Europe, exploited by sweat-shop employers and ruthless landlords alike, found themselves crowded into a single section of the growing metropolis under working and living conditions which soon became notorious for everything that we now think of as characteristic of the slum or the substandard area. By the early part of the 20th Century, when technical progress in building design had advanced concurrently with an aroused awareness of the social dangers implied in having so large a mass of our fellow citizens working and living under such unfavorable conditions, the Lower East Side became the focal point of the many investigations into, and experiments with, the improvement of slum areas by means of various approaches—the settlement house, school and playground programs, enactment and enforcement of fire and health regulations applicable to factories and dwellings, and finally, the "housing movement" in all of its manifold aspects.

Subsequently, other slum areas in New York, as well as elsewhere in the country, came in for similar but somewhat later attention; by the middle of the 1930's and with the coming of the New Deal, the "better housing movement" was fully on the march and many changes—most of them for the better—began to appear in slum areas everywhere. But the Lower East Side had a head start on them all and by now, with many new projects adorning it, the remaining but sizable portion of unredeveloped area of the Lower East Side has passed through another phase—that of the residential area which is declining through a movement of population away from it. This is due, in part, to the cutting off of immigration following the quota laws of 1924; and, in part, to the fact that second and third generations of the original slum inhabitants have become prosperous and moved elsewhere. At the present, the Lower East Side is by no means as congested or as substandard as it was and much less of a problem area than other slum neighborhoods.

But the very fact that an area of this sort should have gone through two complete cycles within the recent past makes it an appropriate subject

COLLEGE DORMITORY

for research, whether economic or social. Dr. Grebler's book is, therefore, a most valuable and timely one for every student of city development in general, and of housing in particular, who wishes to get a comprehensive picture of the changes that have taken place in such an area. Written largely from the economic point of view, with somewhat less emphasis on the social and technical aspects, Dr. Grebler's book is, nonetheless, as useful for the questions it raises for further investigation as for those it answers with facts and figures. ROBERT C. WEINBERG

furniture design

The Herman Miller Collection—new edition. *The Herman Miller Furniture Company, Zeeland, Mich., 1952. 9" x 11⅛". 116 pp., 200 photographs and diagrams. $5*

Furniture catalogs are becoming ever more elegant. In fact, catalog in a traditional sense is no longer the word for it! We have here the produce of one manufacturer, file-sized and A.I.A. numbered, but the Herman Miller Collection is called a book, cared for as a book, and *is* an important book for anyone interested in contemporary furniture design. For architects and designers specifying from the line, it is a handy organization of the pertinent facts and figures. As for prices, these are listed in a separate brochure correlated with this volume.

George Nelson and Charles Eames are associated not only in the design of the chairs, tables, and casegoods for the company but with the showrooms that display them and the ads and books that tell about them. The Herman Miller Company is not one to underestimate the power of architect-designers. By giving them jurisdiction over display, presentation, and (in a sense) even selling, they have reaped high standards and complete design integration. This handsome volume specks well for the policy. It is a fine book to look at and a pleasure to consult for facts.

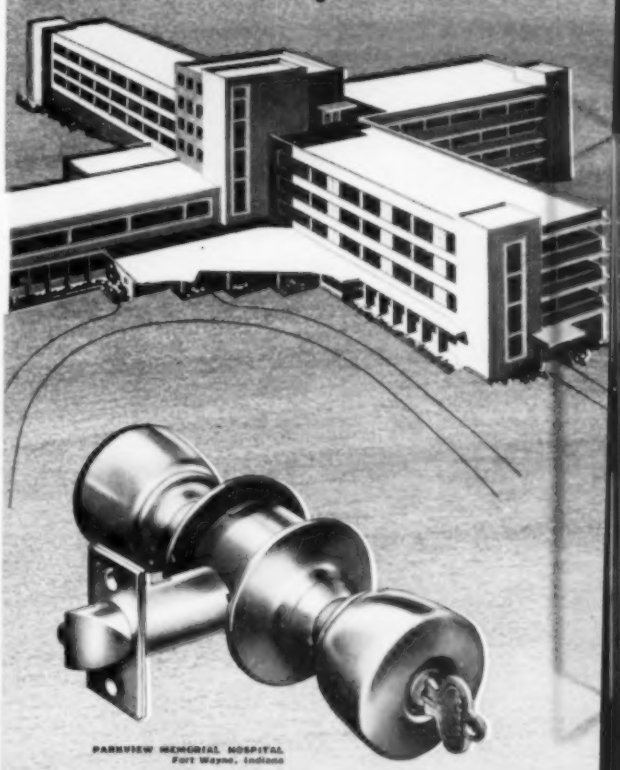
The Herman Miller Collection is divided into sections called Storage, Sleeping, Dining, Leisure, and Work. These include the furniture designed by Nelson plus some pieces by Isamu Noguchi and by the Danish firm, Hvidt-Neilsen. Each section is prefaced by an analysis of the particular contemporary living need and of the furniture that follows. A separate section is devoted to the work of Eames. Photographs are used expansively and all pieces are well documented by dimensioned drawings, general and specific data about modular systems, construction, finishes, hardware, etc. The documentation takes many forms. For instance, a series of questions and answers is an effective device for giving some basic information about storage units.

George Nelson, as Director of Design, writes both the preface and a foreword to the second edition, telling us in smooth style the history and philosophy behind the line. Also included are biographical sketches of the designers involved.

The book, in the main, was designed by the George Nelson office, with the Eames section by Ray and Charles Eames and their office. Many individuals were involved and all hands are duly credited in the back of the book. Our one criticism of the book is that its permanent binding does not allow for additions that must come from a growing line. Of course, with a flexible binding, scattered pages are a danger. Perhaps the thought is that the intactness of the Herman Miller Collection can be better symbolized by the intactness of its binding. S. S.

(Continued on page 141)

The New "Look" in Fort Wayne...



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REVIEWS

(Continued from page 139)

man's potentialities

Art and Technics. Lewis Mumford. Columbia University Press, 2960 Broadway, New York, N.Y., 1952. 162 pp. $2.50

Because of his prominence as an author in the fields of philosophy and architecture, Lewis Mumford, for many years an architectural and social critic, was selected to give the Bampton Lectures in America at Columbia University last year. This book contains the six lectures as they were originally delivered. One might say that this searching appraisal of the arts and sciences is actually a "summing up" on the author's part, for in this short volume he expresses the essence of the philosophical viewpoints that have won him such recognition.

Throughout history there have always been two opposing impulses within man—the artistic, which is subjective, and the technical, which is, of course, objective. In lucid manner and with sound judgment, Mumford shows the relationship of those impulses down through the ages. He also touches upon this relationship as he sees it in these disturbed times and, in a very pointed analysis, expresses his conviction that there is an over emphasis on technics. Believing that man is now at "a moment of splendid potentialities and promise," he strongly urges a rebirth of personal initiative. He also believes that man, if he is so inclined, should make use of machines in a temperate but intelligent and creative way and seek within himself a spiritual rebirth—a rebirth which Mumford feels is much needed.

Whether one agrees with the author's viewpoints, there is no denying that this book will arouse much interest and stimulate the reader's thought. For to propound his thesis on art and technics, he delves deep into the history of painting, sculpture, architecture, engineering, and printing. He drives home his opinions with examples that show how first one and then the other of the two forces has been predominant. His is no snap judgment, for few have behind them such a wealth of information based on sound study.

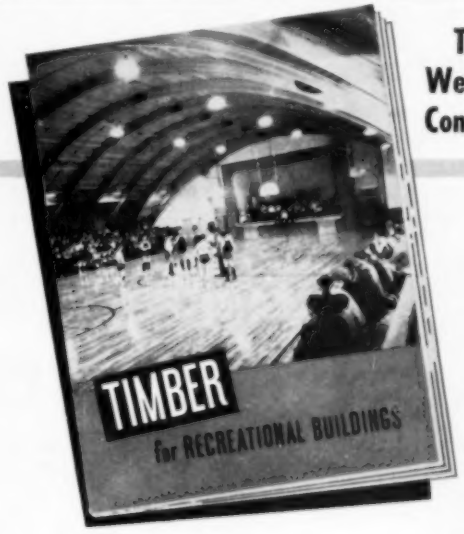
In his article, "Symbol and Function in Architecture," he takes a rather gloomy view of contemporary architecture, feeling that "our best architects are full of technical facility and calculated competence but still going through mechanical motions." This, as well as many other of the author's opinions, will not be shared generally by members of the profession, but at least the opinions are worth thinking about. One cannot help but feel the deep sincerity of the author's convictions. FRANK A. WRENSCH

using thermostats

Controls for Central Heating Systems. *Small Homes Council, University of Illinois, Urbana, Ill. 8 pp., illus. 10 cents*

Improper location and use of the room thermostat is one major cause of failure to maintain comfortable temperatures in the home, according to the nontechnical circular issued by the Small Homes Council at the University of Illinois. Recommendations are given for correct placement of room thermostats for the most efficient operation; there are also descriptions of suitable controls for different types of fuel-burning systems—coal, coke, gas and oil furnaces and boilers, with four pages of charts to simplify the selection for home owners.

E. T.



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out of school

by Carl Feiss

Midsummer madness is upon us. By this time, the student still in school should have found a summer job. The tired professor relaxes with design of a small house or a bit of lallygagging in Europe. Catalogues for the year 1952-53 are at the printer, and the die is cast. There is nothing more irrevocable than a catalogue, once the dummy has been edited and sent back. And it is now that fears set in, because the school year is built and the structure is ready for occupancy and management. Will there be enough tenants and will they pay out? Have competitors figured a new angle?

In previous issues, I have discussed teaching for the building industry and the relationship between the business of building and the art, science, and business of architecture. Frankly, I am not satisfied that adequate progress is being made in the field of business management in the training of builders, nor am I satisfied that the universities and the schools of architecture are sufficiently interested in the subject. There are not enough colleges of business administration which consider the building industry in their curricula and the national lay attitude on the universality of the "impractical architect" is so well established that it may take generations to eradicate it.

I am sure that, by this time, I have sufficiently established with you my interest in the esthetics of comprehensive architecture. There is more that I ultimately hope to be able to cover in this column in the entire field of design training. It is a subject of constant concern. But right now the proper integration of business training with the purposes behind progressive architectural design is a fundamental educational issue. You may not be interested, but you should be. I urge you to consider what I am about to say.

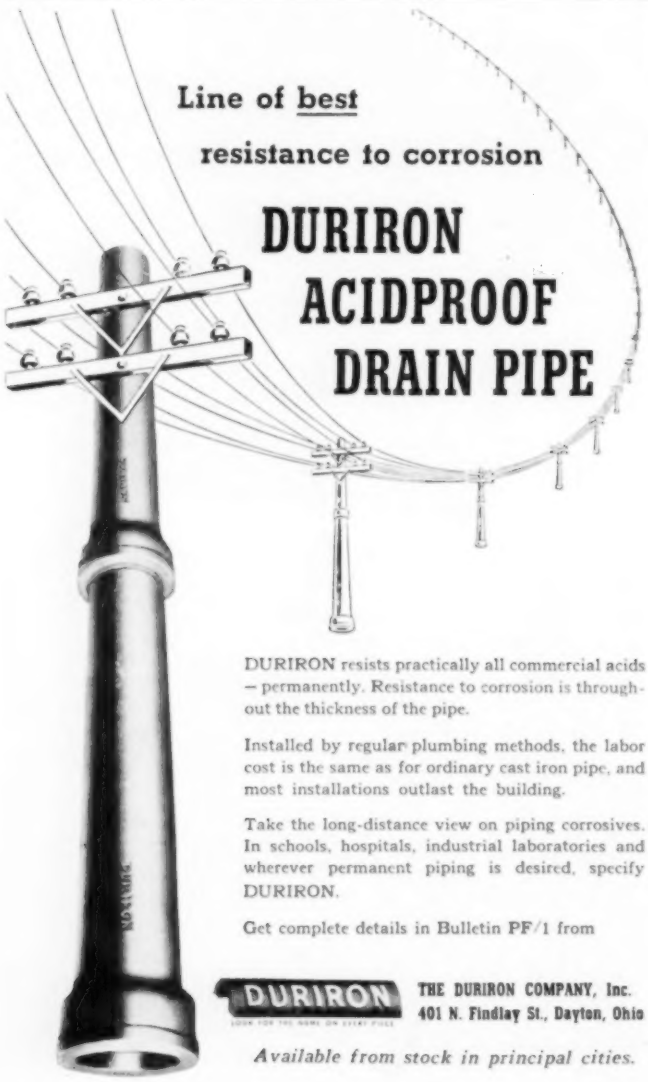
●

When an architectural student graduates today, he may have been lucky to have had five semester hours in professional practice, which will include some study of contracts. He will know little or nothing about the financing of the building operations with which he hopes to spend a lifetime. He will have had little or no experience with the field of investment finance, including mortgages and loans, taxation, insurance, payrolls, bookkeeping, labor and material costs, accounting, credit financing, overhead costs, salary schedules, office space rentals, travel costs, social security, and the many other items on a long list which anyone but an architectural student or professor can draw up.

It is accepted practice of architectural educators to omit these items from an already congested curriculum, with the certainty that these problems of practice can be and will be learned in the office. So be it, for the moment. Now let us look at the other side of the partition. Where is the business of building buildings being taught? Where should the third largest industry in the United States, vitally affecting each and every one of us, obtain its leadership?

You will notice I use the word "leadership." There is an important distinction between leadership and craftsmanship. I have a great respect for craftsmanship and do not in any way belittle it here. Adequate training in the skills of building in the trade schools, the trade union schools and in certain types of technical institute and junior college work, is as essential as any training to be given anywhere. Comprehensive architecture, the all-inclusive architecture of all building, depends on many of the sound skills and careful craftsmanship that we find gradually disappearing in the building

(Continued on page 144)



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Accept the fact that a Nova-Vita Window is built to outlast the house itself. Then add these facts... *there are no sash balances or counterweights, no operating cranks, no projecting hinges. And a Vinyl gasket has eliminated all puttying, forever!* The Nova-Vita Window is not only more attractive and more convenient in every way; it is lastingly trouble-free.

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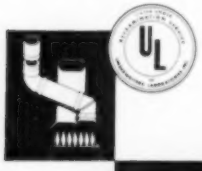

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WILLIAM WALLACE COMPANY · BELMONT, CALIF.

out of school

(Continued from page 142)

trades. While this is a special subject to be discussed later, I want it made clear here that in my discussion of adequate leadership in the business of building, or the business of comprehensive architecture, the training of the men who saw the wood, lay the bricks, handle the plumbing, wiring, glass, steel, and all the rest, is fundamental in training for leadership.

●

It is here that I come back to the thesis I have mentioned in these columns several times before: the architect is a quasi-professional, without the appropriate and proper contract responsibilities which the business of comprehensive architecture requires. The code of ethics which the A.I.A. insists is essential to assure the honesty, integrity, and selflessness of the architect in his business dealings, and which prevents him from contracting and building as he should, is as artificial and unmanageable as the Volstead Act. Every practitioner knows the subterfuges now in use to evade these silly old stipulations, dating back to the day when architecture was primarily a luxury, and the gentlemen who indulged in it (not ostensibly for a profit), were artists and "gentlemen" of the old school. Those days, I hope, are gone forever. May we continue to be gentlemen, if not members of the Union League Club!

But, my friends, there are still the gentlemen and ethical practitioners of private enterprise. The American businessman is quite often an honest man. I have even known builders and contractors with standards of practice every bit as high as if they were subject to a so-called professional code of ethics! I am a great believer in codes of ethics, but at the same time I know, and you know, if a man is going to sin, he is going to sin. If he is subject to professional stigma, there may be some hesitation on his part. But I, for one, do not and cannot believe that practicing comprehensive architecture, practicing building as it should be practiced, from start to finish, is a sin.

We all know that one of the reasons for the prohibition of the architect in the building and contracting business is the fear that he might make a profit on materials and labor within a fixed contract. I personally wouldn't begrudge him a profit if he performs as the contract requires. For I am sure that were he to do the entire building job, he would do a better total building than he does today. Maybe you will inquire whether such a man can still be called an architect. In many parts of South America and in Europe he is. And I like much of the work being done by these generalist architects —who are certainly professionals.

(Continued on page 146)

30 DAY FIRE GUTS WAREHOUSE

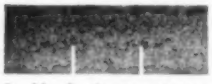
FAILS TO DESTROY STOCK OF FIRE-CHEX ASBESTOS-PLASTIC SHINGLES STORED INSIDE

"We Saw it With Our Own Eyes! Carey Fire-Chex Shingles are Fireproof!", Say Officials of Mohawk Building Materials Corporation

RENSSELAER, N. Y., December 6, 1951 —The fire that broke out on November 6 and destroyed two sections of the Rensselaer warehouse, owned by the Mohawk Building Materials Corporation, was finally extinguished last night, 30 days after the alarm was turned in.

Although the fire in most sections of the building was brought under control within ten days, it smouldered in the insulation board and roofing section for a full month. In this section, eighteen inch brick walls collapsed during the early stages of the fire, burying the roofing and insulation to a depth of over ten feet. Firefighters scored complete victory last night, when they spread this mass with a bulldozer and extinguished the flames.

As the rubble was cleared away, several piles of Carey Fire-Chex shingles were observed to be still standing. The wood pallets on which the shingles were piled had burned away, and the paper cartons were gone, but the shingles were still in good condition. Officials of the Mohawk Building Materials Corporation stated that the Carey Fire-Chex shingles were just slightly stuck together on the 12" edges, but not enough to prevent sliding them out from beneath the wire ties. "We saw it with our own eyes. Carey Fire-Chex shingles are fireproof," said C. Lawrence Fenner, vice president of the firm.



Fire-Chex asbestos-plastic shingles are an exclusive product of the Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio, widely known manufacturer of asbestos and asphalt building materials. Coated with a patented asbestos-plastic, Fire-Chex have been tested by Underwriters' Laboratories, Inc. and found to resist fire so effectively that they are rated "CLASS A" without underlayment by Underwriters' – the highest possible rating for fire protection. Fire-Chex are the only roofing material of any kind to carry this highest fire-protective classification.

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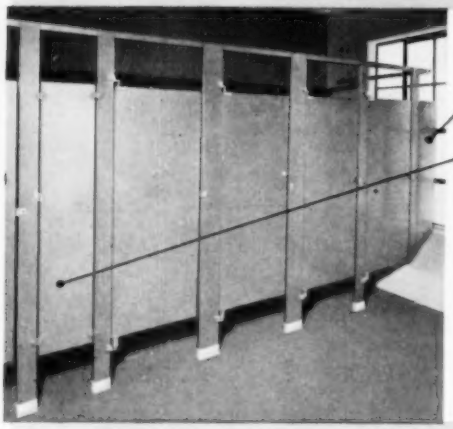

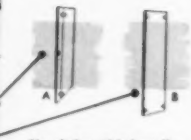

Here's how this installation problem was solved

Large concrete window base presented difficulty. Bottoms of filler panel A and end pilaster were cut to fit diagonal slope of base. Room dimension was too short for six compartments; too long for five. Filler Panel B was added, creating neat appearance

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out of school

(Continued from page 144)

Our habits of thinking based on a non-pertinent tradition limiting architectural practice has constituted a severe limitation on the conversion of the building industry into a sound and modern business and industrial enterprise. It has also been responsible for a narrowing of the horizons of education and the training for the ultimate leadership so badly needed in the conversion of the entire building industry from a scattered handicraft complex to an orderly and enterprising enterprise. It has proven a serious handicap in the field of business research and industrial research in building, has segregated such research from those who could be trained for leadership, has transferred to the universities the same concept of disorder generated by present practices, and in so doing, perpetuates the untenable.

I know of no educational institution, university, college, or technical institute, which is even approaching the total job which must be done. In a few places, colleges of Business Administration have recently taken on courses or even four-year curricula in the building industry—a step ahead. Building research, including "architectural" items, is developing in several research institutes or foundations on a few compuses. In a few instances, there is an attempt to tie some of this research in with the work of an architectural school. There is a slight breeze blowing in the right direction, but it is a timid breeze, and hardly stirs the air. We are in the low-pressure area of the doldrums of a bad habit.

One of these days one of our leading educational institutions will take the initiative and train for comprehensive architecture. It will set up a real center for building education—for leadership in the field of the design of man's environment. Such a center will combine with the training of the social scientist (including the urban sociologist, and the public administrator), training in architectural design and collateral design, construction and engineering, business administration, labor relations, real estate, and building law. This will take guts not common to our institutions of higher learning these days. In the first place, within these institutions the hidebound divisions into schools and colleges, the untransferability of credit hours, and the fixations on prerequisites in the hierarchy of courses and the accolades of degrees would have to be broken down. Also, one of the most difficult problems to be met would be the bookkeeping—a complex and

(Continued on page 148)

controls temperature and flow
single-handle water faucet

Deck-type MOEN faucet.

The Moen faucet's single-handle control of both water temperature and flow provides several advantages over conventional faucets. A free hand is not needed to operate it . . . the back of the hand, the wrist, or elbow can be used (see diagram at right).

Moen single-handle mixing faucets are now in use in schools, hospitals, industrial plants, restaurants, commercial structures, and home kitchens.

It is manufactured by the MOEN VALVE COMPANY, a Division of Ravenna Metal Products Corp., 6518 Ravenna Ave., Seattle 5, Wash. For detailed information consult your local plumbing supplier, or write for free copy of A.I.A. File No. 29-H-5. Use coupon below.

data

Advantages of Moen single-handle mixing faucet over conventional types.

1. Single-handle (lever) controls both temperature and volume.
2. Greatly reduced danger of scalding because position of handle indicates water temperature before faucet is turned on.
3. Utilizes water pressure to help keep valve tightly closed.
4. When faucet is 'on', equal water pressure on top and bottom of piston affords feather touch control.
5. User dials water temperature and controls volume without changing the temperature.
6. Precision construction. Stainless steel and wrought brass throughout. No screw threads to wear or chatter. Double-sealed for long-lasting, drip-proof performance.
7. Minimum number of parts. Can be serviced without disconnecting faucet.
8. Available in styles to fit all sinks.

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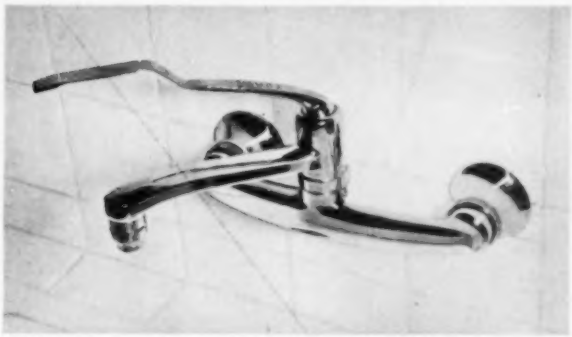

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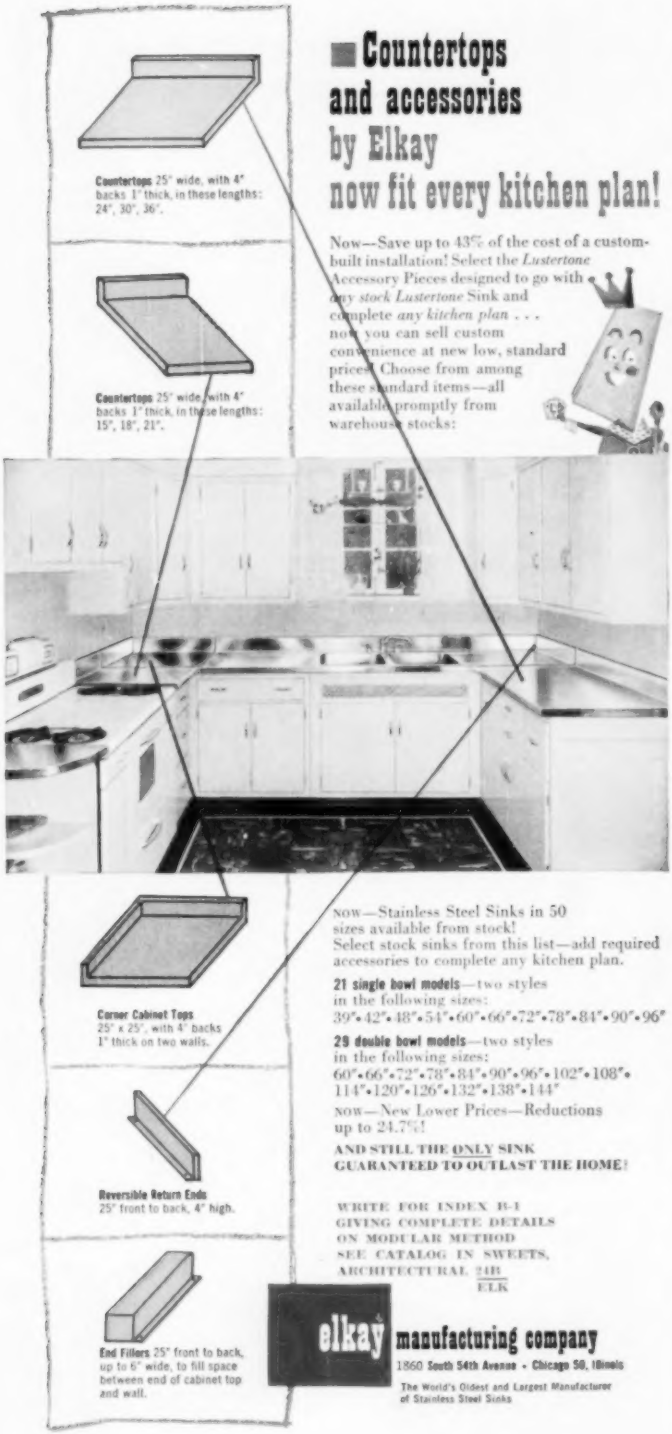
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Countertops 25" wide, with 4" backs 1" thick, in these lengths: 15", 18", 21".
Corner Cabinet Tops 25" x 25", with 4" backs 1" thick on two walls.
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Countertops and accessories by Elkay now fit every kitchen plan!
Now—Save up to 43% of the cost of a custom-built installation! Select the Lustertone Accessory Pieces designed to go with any stock Lustertone Sink and complete any kitchen plan . . . now you can sell custom convenience at new low, standard prices! Choose from among these standard items—all available promptly from warehouse stocks:
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out of school

(Continued from page 144)

pretty foolish business system in universities these days. Even though all the money comes from one pot, books are kept on student, faculty, and maintenance costs on a student per class per school basis. This throws a gimmick into the free movement of both students and faculty between schools. When an engineering school services an architectural school with a faculty member, the deans begin battles of budgets which loudly reverberate in faculty meetings, further fractioning the campus.

Somewhere, someday, some president or chancellor or provost will say in polite academic terms, "To Hell with this nonsense! Let's design programs for service and leadership in the logic of man's requirements and his ability to fulfill those requirements. We are no longer medieval cloisters, despite our architecture. We are modern educational institutions, training for the best interests of mankind. We should worry less about accrediting our schools in the traditions of accepted practices than we do in their accrediting on the honor roll of the history of mankind's progress. Our students, therefore, under the guidance of competent program analysts, shall be free to roam the halls of education to select those courses which will lead to those destinations of service and career to which their aptitudes and interests aspire. I am the Joshua who blows down the walls of Jericho and offers you the Promised Land—and your tuition's worth of education on the side."

●

What could this mean to the training of comprehensive architects? Trouble, I'm afraid. In the first place, if our schools were to graduate men with beliefs that they should be free to practice architecture as any situation might require, including the handling of real estate, building and contracting contracts, direct financing, and the other aspects of the building business, they would be anathema to the A.I.A. and the state architectural licensing boards. Such a graduate would enter a hostile world of traditional attitudes about the inviolability and superiority of our present system of architectural practice. If he were not to fetter himself with an A.I.A. membership (and I have been for years and am a loyal member of the Institute), and if he were to take out a license to perform as a builder or building contractor instead of an architect, he would be free to act and do as he would choose in the building world. Some highly competent men, as you know, have signed themselves as "de-

(Continued on page 150)

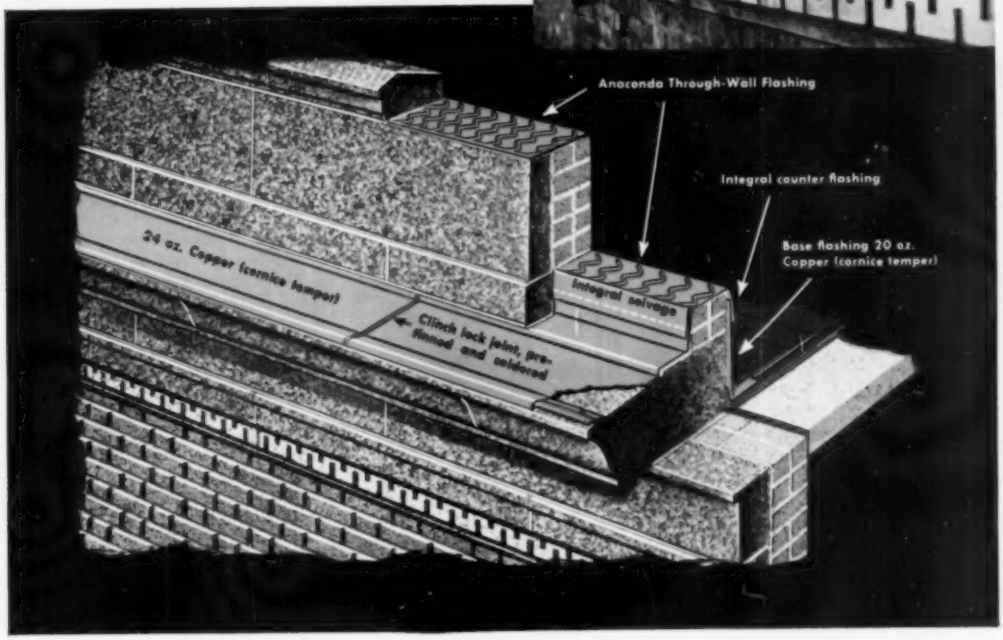
use copper wisely

correct flashing could have prevented this

This photograph illustrates what can happen when water penetrates a masonry cornice and parapet. Here frost has damaged the cornice beyond repair.

Had the parapet and cornice been flashed as shown on the drawing, water absorbed by the coping would have been diverted toward the roof. Flashing above the cornice would have prevented the spalling which was caused by water entering the vertical joints and freezing.

Because all masonry is porous and absorptive—proper flashing design is essential to sound and lasting construction. The American Brass Company is always glad to discuss and offer suggestions on any problem involving sheet copper in building construction.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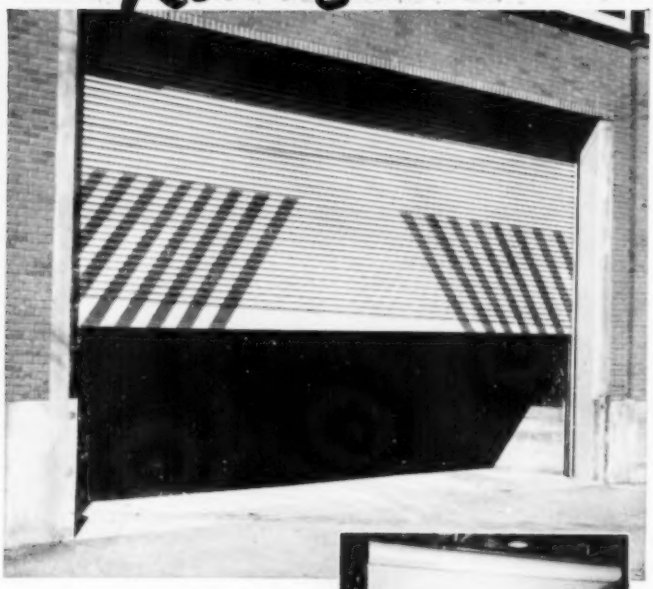

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They save space by opening straight up and coiling above the doorway, allowing all floor and wall space around the door to be used at all times.

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Saving Ways in Doorways
KINNEAR
ROLLING DOORS

out of school

(Continued from page 148)

signer" or "architectural designer" and avoided architectural restrictions on their business as well as their design abilities. This is not the solution. Running away won't help.

Further problems facing a reform in architectural education in and out of school is the highly conservative attitude of the educators themselves. While many are practicing architects themselves, their experience and training limit their imagination and courage to tackle as large a problem as this reform suggests. This is an easily understood attitude and I sympathize with it. Few of these men are acquainted with the collateral business and research fields. Few have had experience beyond certain limited types of contact with labor, financiers, realtors, and builders. Few merchandisers of building materials and equipment men have bothered to root out the educators. These teachers are overworked, underpaid, and subservient to a system. Also they have little or no means of continued intercommunication between schools on a campus or between campuses. The grapevine between schools is largely rooted in hearsay, and is anything but a strong vine which can bind ideas together. In other words, it is going to be a slow and arduous task to bring about the co-ordination of comprehensive architectural training, so badly needed on the campus for the ultimate benefit of the building world.

I would like to think that perhaps, someday, the president of a university will call together a conference on architectural practice and education. I would like to hope that at such a conference some person of stature in the architectural world would get up and say in more forceful terms than I can what needs to be said on this subject. I would like to hope that at such a conference a carefully selected group of curriculum builders from a wide area of educational fields would sit down with a plan to rebuild architectural and building training to conform, not with conformity but with what America needs from what could be a great fraternity of builders. I would hope that one of the objectives these men would set would be that no building or community would be too small or too inexpensive or too large or too costly to need the services of the comprehensive architect. The making available to the world of the best in technology and handicraft, the best in business and the social sciences, and the ordered planning of the processes of building through the guidance of our scientists and technologists, our philosophers and designers, is a consummation devoutly to be desired. It can be and must be done.

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Ponderosa Pine
WOODWORK

it's the law

by Bernard Tomson

This supplement to Chapter 20 of Tomson's Architectural and Engineering Law (Reinhold) was begun here last month. They should be considered in relation to the principle that there is an implied condition that the architect's plans, when completed, will be suitable and proper for the purposes intended, and that a building ordinance, in effect, becomes a part of the contract between the architect and owner as though it had actually been written into the contract (see pp. 262, 263, 274, and 275).

esthetic zoning
part 2: residential

The previous column (June 1952 P/A—Esthetic Zoning, Industrial Areas) discussed the New York City Zoning Resolution (Art. 2, Sec. 3) relating to the erection of light-industry projects in residential areas. Under that regulation, the City Planning Commission considers esthetic suitability in relation to the facts peculiar to each proposed project and not by any rigid set of rules. One of the factors which received a great deal of consideration by the Commission was, in each case, the appearance of the project at the proposed site and its blending with or enhancing of the immediate area.

This month's column will concern itself with recent "esthetic zoning," as applied to residential areas. During the past few years municipalities, faced with expanding housing activity in suburban areas, have enacted zoning laws regulating the character of residential development. These enactments were an attempt to preserve for the residents the advantages of a distinctive and attractive rural environment. Some legislation has concerned itself exclusively with the promotion of esthetic and artistic development of new residential construction in the community. In April, 1950, the Village of Scarsdale (State of New York) enacted a law (December 1950 P/A) by which the Village sought to eliminate "look-alike" homes, using indicia of uniformity rigidly set forth in its ordinance. (*See Footnote* [1]) The enforcement of the law was left in the hands of the building inspector with a review of his determination, by an appeal to a Building Board, composed of three residents, at least one of whom is to be an architect.

On February 15, 1952, the Village of Garden City (New York State) enacted legislation aimed at the accomplishment of this same purpose, but by a procedure providing flexibility in its operation. (*See Footnote* [2])

The Garden City local law, as did the Scarsdale law, lists the indicia of similarity, but with a great deal less rigidity and employs a novel approach. (*See Footnote* [3])

●

The law provides for *initial* consideration of any application by a Board of Review, created under Section 2, which reads in part as follows:

"There is hereby created a Board of Review, consisting of five members, who shall serve without compensation. All members of said Board shall be residents of the Village of Garden City and shall be persons deemed by the Board of Trustees to be qualified by reason of training, experience, or civic interest, and by reason of sound judgment, to determine the effects of a proposed building, group of buildings, or plan of building development on the desirability, property values, and development of surrounding areas and on the development of the village as a whole."

In effect, what is provided for, by this statute, is a fresh consideration of the "esthetics" of each building, as it is proposed. This procedure is similar to that employed by The City of New York, for the erection of light-industry projects in residential areas. The

(Continued on page 154)

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the new **kno·draft** square diffuser

Even before we could get this announcement into print, word of this new Kno-Draft *Square* Diffuser got around. We've been filling orders from all over. The air conditioning folks who have seen it and installed it are plenty enthusiastic. And no wonder —

Here in this smart, efficient *square* unit are the advanced engineering characteristics that have made the standard round Kno-Draft Air Diffuser famous — built-in volume control, precision *circular* air patterns, sturdy construction, and others.

You can get the new *square* Kno-Draft in two brilliantly conceived modern designs — both for quick, easy installation. *Type KP* features overlap style construction. *Type KPT* is designed for T-bar installations, snapping snugly into perforated acoustical-type ceilings.

You can get complete engineering data on the new, already popular, Kno-Draft *Square* Diffusers quickly. Just mail the coupon today.

TRADE MARK "KNO-DRAFT" REG. U.S. PAT. OFF.

W.B.CONNOR ENGINEERING CORP.
Danbury, Connecticut
Air Diffusion • Air Purification • Air Recovery
In Canada: Douglas Engineering Co., Ltd.,
101 Murray Street, Montreal 3, P. Q.

W. B. CONNOR ENGINEERING CORP.
Dept. V-72, Danbury, Connecticut
Please send full information on the new Kno-Draft *Square* Diffusers.

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Position .....
Company .....
Street .....
City ..... Zone .... State .....

Single-Lamp WILEY HALLITE Units
for Corridors, Library Stacks, etc.
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Fluorescent or Slimline Lamps

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20°, 30°, or 45° Shielding

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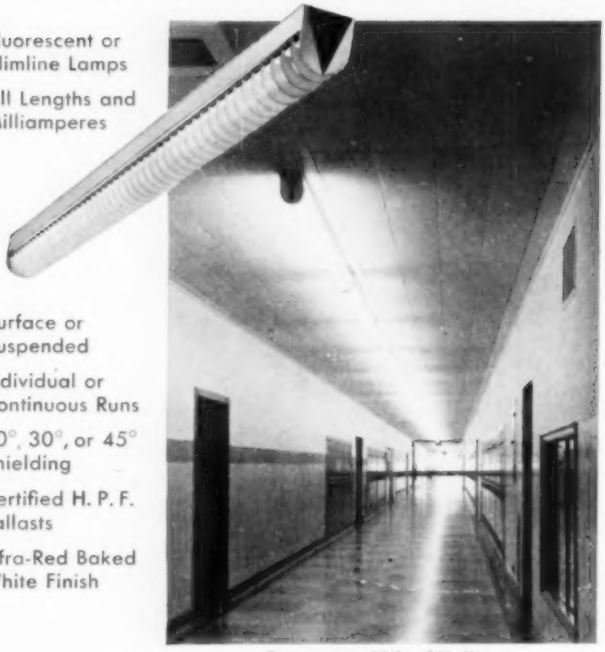
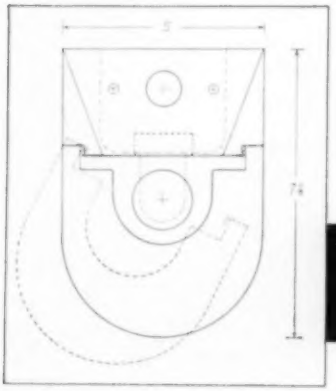


One quarter Mile of Hallites, West Seneca School, West Seneca, N. Y.

See the complete Wiley line of Commercial, Industrial, and Recessed Units in Sweet's Architectural 31-A or McGraw-Hill Electrical Catalogs.



- Factory-assembled...ready to install; no parts to put together on the job.
- Units designed for quick, easy erection; saves time and effort.
- E-Z Servicer; one man . . . no tools . . . can clean or replace tubes.
- District Sales Engineers available for prompt cooperation.

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Dearborn and Bridge Sts.
BUFFALO 7, NEW YORK

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it's the law

(Continued from page 152)

Board of Review, in disapproving any application, may specify modifications in design of the building or buildings that will be adequate to render them acceptable under the provisions of the law. Other procedural devices which operate to the benefit of the applicant are: (1) the Building Inspector must refer an applicant to the Board of Review within three days; (2) the Board of Review must disapprove an application within eighteen days, or else must issue a permit; and (3) any party aggrieved has a right of appeal to the Board of Zoning Appeals.

The legislation leaves to the Board of Review a great deal of discretion. The indicia of similarity are flexible, and the Board of Review is granted the authority to vary (to a degree) other legislation in this same field. Section 7 of the law reads, in part:

"With the purpose of encouraging the most appropriate use of land throughout the Village the Board of Review may vary the minimum floor area requirements set forth in Zoning Ordinance No. 29 of the Village, as amended, so as to reduce said requirements by not more than ten percent, if, by reason of greater lot frontages or areas or side yard widths or less percentage of lot coverage by building area than are specified by said zoning ordinance or by reason of the provision of public or common open space as a part of the development or exceptionally skillful lot arrangement and site design, the result of said variation will be in harmony with the character of the neighborhood."

For the lawyer, the "Garden City" Zoning law presents some very interesting questions as to its enforcibility, legality, and constitutionality. For the architect, it raises a further interesting question as to how effective it will prove to be in the application of "esthetic" considerations to community planning.

---

1. *"Section 2. Except as provided in this local law, no building permit shall be issued under the Building Code of the Village for the erection of any building for occupancy as a dwelling for one or two families if it is like or substantially like any neighboring building, as hereinafter defined, then in existence or for which a building permit has been issued, in more than three of the following six respects:*

"(1) Height of the main roof ridge, or, in the case of a building with a flat roof, the highest point of the roof beams, above the elevation of the first floor;

"(2) Height of the main roof ridge above the top of the plate (all flat roofs shall be deemed identical in this dimension);

"(3) Length of the main roof ridge, or,

(Continued on page 156)

you can spell *Selection*

with a capital "S"!

Double-hung window units—window walls—fixed sash—casements—windows for attics and basements—they're all in the broad Curtis Silentite line. Here is the wide selection that simplifies your planning and building—creates harmonious fenestration for any architectural style—while it provides *extra* window value for the home owner. Silentite wood window units save time and labor on the job—insure lasting satisfaction.

In every region of the country, Curtis Silentite double-hung window units have proved their superior weather-tightness—their ability to operate easily under changing conditions of humidity, temperature and precipitation. For no other double-hung window has the Silentite "floating" side weather strips—special patented weather-stripping at head, meeting rail and sill.

Here you see the wide selection—the fine proportions—the real window beauty which Curtis Silentite units add to a home. Note the pleasing effect achieved by combining Curtis Silentite picture windows, double-hung units and casements. Arrangements like this are easy with Silentite windows. Several sash styles available.

Silentite casement units are the result of long years of research to provide a casement that is truly weathertight—free from rattling and sticking. Tests show that Silentite casements can save as much as 16% of the yearly fuel bill in a home. These casements come as complete units with all parts machined and prefitted; carton-packed, including all operating hardware. Prefit screens and insulating glass are available. Several sash styles.

1865 CURTIS WOODWORK SILENTITE PRE-FIT the *Insulated* window

Curtis makes a complete line of architectural woodwork and Silentite windows for homes of all types and sizes. Make your next house "all Curtis."

Curtis Companies Service Bureau
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Gentlemen:
I want to know more about Curtis Silentite Windows. Please send free window booklet. I am ☐ architect, ☐ contractor, ☐ prospective home builder, ☐ student. (Please check above.)

Name.....

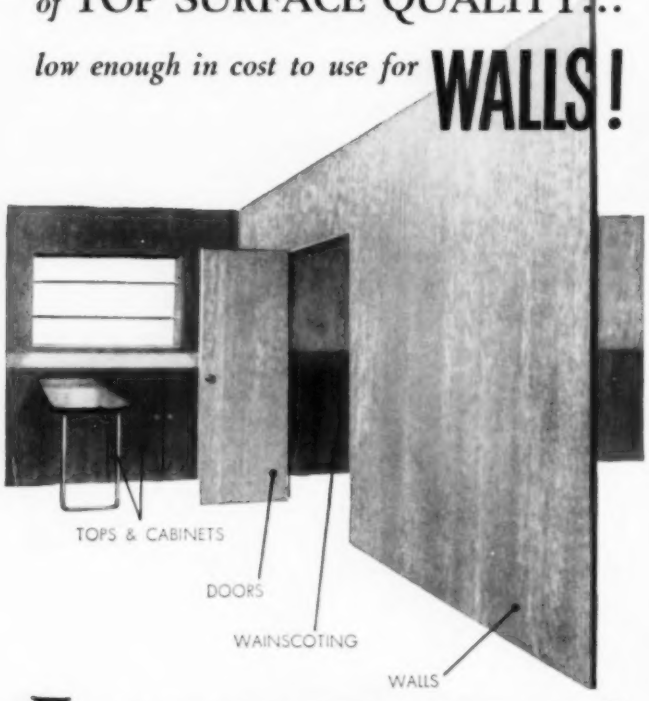
Address.....

City.....*State*.....

here's the genuine ***plastic laminate***

of TOP SURFACE QUALITY...

low enough in cost to use for **WALLS!**



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Gives Walls New Lifetime Beauty!
Rich, natural wood grains, smart, decorative patterns and colors resist stains, heat, hard blows and abuse . . . maintenance-free, wipes clean with a damp cloth . . . no polishing.

Low Initial Cost— Low Application Cost!
Lamidall comes in structural panels up to 4' x 12', 1/8" thick . . . easily worked on the job with ordinary carpenter's tools —quickly and simply applied to walls and top surfaces.

Durable, Decorative and Economical!
Lamidall opens up many possibilities for uses in institutional, commercial and residential buildings . . . for walls, ceilings, counter tops, cabinets and furniture.

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Send for Free Samples and New Full-color Folder!

Prove it to yourself . . . see the beauty . . . test the durability.

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it's the law

(Continued from page 154)

in the case of a building with a flat roof, length of the main roof;

"(4) Width between outside walls at the ends of the building measured under the main roof at right angles to the length thereof;

"(5) Relative location of windows in the front elevation or in each of both side elevations with respect to each other and with respect to any door, chimney, porch, or attached garage in the same elevation;

"(6) In the front elevation, both (a) relative location with respect to each other of garage, if attached, porch, if any, and the remainder of the building, and (b) either (i) height of any portion of the building located outside the limits of the main roof, measured from the elevation of the first floor to the roof ridge, or, in the case of a flat roof, the highest point of the roof beams, or (ii) width of said portion of the building if it has a gable in the front elevation, otherwise length of said roof ridge or said flat roof in the front elevation.

"Buildings shall be deemed to be like each other in any dimension with respect to which the difference between them is not more than two feet. Buildings between which the only difference in relative location of elements is end to end or side to side reversal of elements shall be deemed to be like each other in relative location of such elements. In relation to the premises with respect to which the permit is sought, a building shall be deemed to be a neighboring building if the lot upon which it or any part of it has been or will be erected is any one of the following lots, as shown on the tax map of the Village:

"(a) Any lot on the street upon which the building to be erected on said premises would front which is the first or the second lot next along said street in either direction from said premises, without regard to intervening street lines;

"(b) Any lot any part of the street line frontage of which is across said street from said premises or from a lot referred to in subparagraph (a) of this section;

"(c) Any lot any part of the street line frontage of which faces the end of, and is within the width of, said street, if there are less than two lots between said premises and the end of said street;

"(d) Any lot on another street which adjoins said premises on such other street; or

"(e) Any lot any part of the street line frontage of which is across such other street from said premises or from a lot referred to in subparagraph (d) of this section;

provided, however, that, notwithstanding any of the foregoing provisions of this section, no building shall be deemed to be a neighboring building in relation to said premises if its rear elevation faces the street upon which the building to be erected on said premises would front."

"The Board of Trustees hereby finds

(Continued on page 158)

BRIXMENT ASSURES A GOOD BOND

After all is said and done, the first function of a mortar is to form a good, tight *bond* with the brick. Upon this characteristic depend both the strength and the water-tightness of the wall. A good bond is particularly important in securing water-tight walls, because most cases of leakage are caused by the passage of water *between* the brick and the mortar.

Brixment mortar assures a good, strong, *thorough* bond because: (1) Its great plasticity permits a more complete bedding of the brick, and an increased area of contact between the brick and mortar.

(2) Its high water-retaining capacity keeps the brick from sucking the water out of the mortar too fast, and prevents the mortar from congealing before the brick is thoroughly bedded and bonded.

(3)It hardens slowly enough to permit deeper penetration and more thorough keying into the pores of the brick.

Because of these characteristics, Brixment mortar makes a *better bond*. Isn't this what you want in *your* brickwork?

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE 2, KY.

it's the law

(Continued from page 156)

(a) that excessive similarity, dissimilarity, or inappropriateness of design in the exterior appearance of residential buildings in relation to the prevailing appearance of residential buildings in the vicinity thereof would adversely affect the desirability of the immediate area and neighboring areas for residential purposes; (b) that inappropriateness or excessive dissimilarity of design in the exterior appearance of residential buildings in relation to the characteristics of design generally prevailing in the village would discourage the most appropriate use of land throughout the village; and (c) that such excessive similarity, dissimilarity, or inappropriateness, would impair the benefits of occupancy of existing residential property, impair the stability and value of both improved and unimproved real property, produce degeneration of residential property, with attendant deterioration of conditions affecting the health, safety and morals of the inhabitants of the village, and destroy a proper relationship between the taxable value of real property and the cost of municipal services provided therefor. It is the purpose of this local law to prevent these and other harmful effects and thus to promote and protect the health, safety, morals and general welfare of the community."

---

3. "The Board of Review shall disapprove any application for a building permit referred to it if the Board finds by a unanimous vote of all the members present at any meeting at which said vote is taken that the building for which the permit is sought or any building of a group of buildings covered by the permit would, if erected, be so detrimental to the character, property values, or development of the surrounding residential area or of the village as a whole as to produce one or more of the harmful effects set forth in Section 1, by reason of:

"(a) excessive similarity of design in relation to any other structure existing or for which a permit has been issued, or to any other structure included in the same permit application, on a plot abutting on the same street and within two hundred fifty feet of the proposed site, in respect to one or more of the following features of exterior design and appearance:

"(1) apparently indentical façade;

"(2) substantially identical size and arrangement of either doors, windows, porticoes or other openings or breaks in the façade facing the street, including reverse arrangement; or

"(3) other significant identical features, such as, but not limited to, construction material, roof line and height, or other design elements;

provided that a finding of excessive similarity of design shall include not only that such similarity exists but, further, that it is of such a nature as to produce one or more of the harmful effects set forth in Section 1; or

"(b) excessive dissimilarity or inappropriateness of design in relation to any other structure existing or for which a permit has been issued, or to any other structure included in the same permit application, on a plot abutting on the same street and within two hundred fifty feet of the proposed site, or inappropriateness or excessive dissimilarity of design in relation to the characteristics of residential building design generally prevailing in the village, in respect to one or more of the following features:

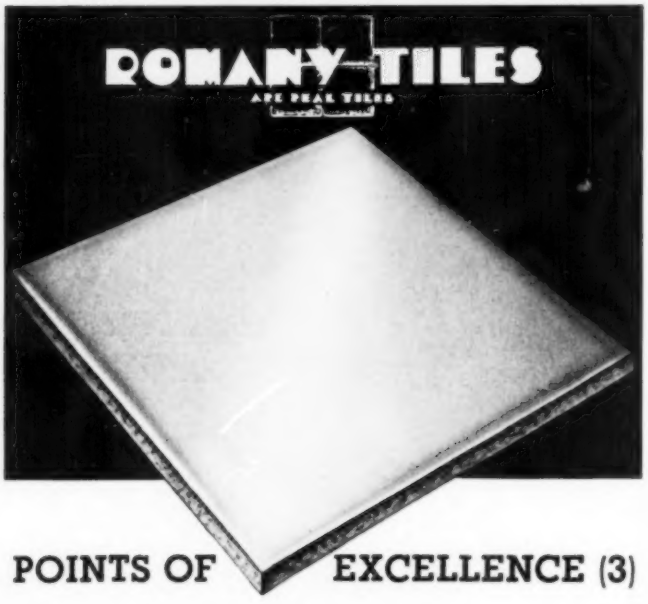
(1) cubical contents;

(2) gross floor area;

(3) height of building or height of roof;

(4) other significant design features, such

(Continued on page 160)



POINTS OF EXCELLENCE (3)

The Romany CUSHION EDGE

ROMANY TILES are all modern cushion edged tiles. The minutely rounded edge returns the glaze into the cement joint and creates a clean sanitary surface. The cushion edge also gives the individual tile a modeled clay look. Other Romany values include unsurpassed wearing qualities, many selective non-fading colors, water, stain and fire resistance, and a hard glazed easy-to-clean surface.

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Look what you can do to an old bathroom!

How Crane ideas on bathroom design fit into your home remodeling plans

The oldest bathroom can be made as attractive as if it were in the most modern house

It's no secret that bathrooms help set the style of a house.

New ideas, modern materials and equipment help you make your clients' bathrooms more attractive and convenient than anything they ever dreamed of.

There's almost no end to the possible ideas for new bathrooms . . . but Crane has illustrated twenty-three new bathroom concepts and put them—along with other practical ideas for kitchens and utility rooms—in the big Crane Sketchbook of Ideas.

The Sketchbook is a basic part of Crane's new service to architects who specialize in designing homes. It's written and illustrated to help you get client approval for your new ideas and room arrangements. And if you wish, we can give you suggestions on decorations and furnishings for any room in the book.

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Announcing
a new line of
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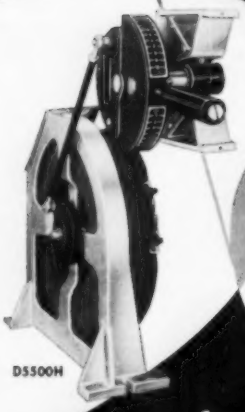
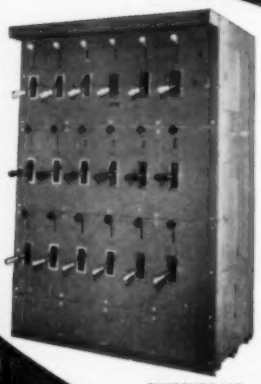


D5500H



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for
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INSTALLATIONS

A new line of 5500 watt INTERLOCKING POWERSTAT Dimmers has been developed for use as switchboard components. Furnished as individual units or in angle iron frames, these interlocking assemblies are designed for mounting on 5 inch centers in any position in back of the shaft handle. They are driven with a simple, positive rod connection from the drum handle to a planetary gear assembly on the dimmer. Ball-bearing mounts assure quiet, smooth, free operation. The dimmers are removable from the frame and the brush-contact can be serviced without taking the POWERSTAT from the frame.
For simplicity of wiring, the terminals can be located at the front or back. A tapered coil winding means linear dimming from full-on to black-out.
The D5500H is rated 120 volts, 50/60 cycles, single phase input; 0-5500 watts output.

WRITE TODAY FOR BULLETIN D4521
DESCRIBING THE COMPLETE LINE OF
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THE SUPERIOR ELECTRIC COMPANY
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☐ Send Bulletin D4521
☐ Send information on complete POWERSTAT Dimmer line
☐ Recommend a reputable switchboard manufacturer

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AFFILIATION_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

it's the law

(Continued from page 158)

as, but not limited to, construction material or quality of achitectural design;
provided that a finding of excessive dissimilarity or inappropriateness of design shall include not only that such dissimilarity or inappropriateness exists, but, further, that it is of such a nature as to produce one or more of the harmful effects set forth in Section 1.

"In disapproving any application for a building permit the Board of Review may specify modifications in the design of the building or buildings or any of them that will be adequate to render the same acceptable under the provisions of this local law."

NOTICES

exhibit

An exhibition entitled, BROOKLYN IN PROGRESS, by students of the Department of Architecture, Pratt Institute, in conjunction with the Brooklyn Chapter of the A.I.A., will be on view through September 1. The exhibit offers an account of the progress of the Borough in the fields of architecture and planning. Views of old Brooklyn architecture are included. The exhibition may be seen at the Brooklyn Museum, Brooklyn, N.Y.

conference awards

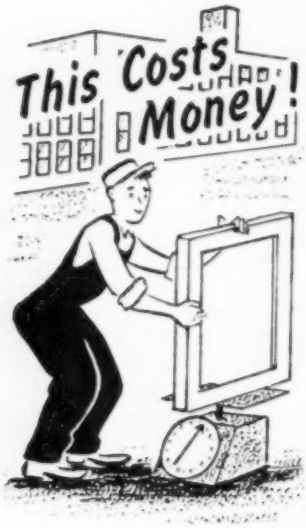
VINCENT KLING, Philadelphia Architect, won a "single award" from the Pennsylvania Society of Architects for "most meritorious completed work" of the year, at the recent Middle Atlantic Regional Conference, A.I.A., held in Philadelphia. His citation, read at the Past Presidents' dinner at the Bellevue-Stratford Hotel by J. Roy Carroll, Jr., Chapter President, explained that "the work of VINCENT KLING, particularly his Kimberton Farm School Arts and Craft Building and the School Residence, fully justify this Award to him."

ALFRED BENDINER, Philadelphia Architect who was prominent in arranging the Middle Atlantic Conferences, won the 1952 VENZIE CORPORATION Award "for the architect making the finest contribution to painting and sculpture."

PHILADELPHIA CHAPTER Prizes for outstanding materials exhibits at the Conference went to: ALUMINUM COMPANY OF AMERICA, First; KENTILE COMPANY, Second; and PITTSBURG PLATE GLASS COMPANY, Third.

(Continued on page 162)

Skidmore, Owings & Merrill, Architects
MODERN DOOR CONTROL BY LCN · CLOSERS CONCEALED IN HEAD FRAME
FORT HAMILTON VETERANS ADMINISTRATION HOSPITAL, BROOKLYN, NEW YORK
LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



Costly man hours and time delays are eliminated when Caldwell adjustable clock-spring sash balances are specified for any double-hung window weighing up to 105 lbs. per sash. Balance can be ordered as soon as sash measurements and glass type are known. Weight variations which always exist in institutional sash are compensated for quickly and easily by Caldwell's patented screwdriver adjustment.

PERFECT ADJUSTABLE COUNTERBALANCE

CALDWELL MANUFACTURING CO.
71 COMMERCIAL ST., ROCHESTER 14, N.Y.
The standard of quality for over 65 years

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Send list of installations of Caldwell adjustable balances.

Name.....

Street.....

City.....Zone....State.....

NOTICES

modular products

Manufacturers whose products (at least some) are available in standard sizes that have been co-ordinated on the basis of the accepted four-inch module are requested to advise The American Institute of Architects accordingly. A directory of manufacturers of modular-size building materials is now being prepared; it will also include helpful suggestions for the architect on modular-drafting practice. Names and addresses of these manufacturers should be sent to: WILLIAM DEMAREST, JR.
Secretary for Modular Coordination
The American Institute of Architects
1741 New York Avenue, N. W.
Washington 6, D. C.

lighting merger

Operations of ELECTRO MFG. CORP., Chicago, and BRIGHT LIGHT REFLECTOR CO., INC., of Bridgeport, Conn., have been merged under the name, ELECTRO SILV-A-KING CORP., to produce an expanded line of fluorescent and incandescent lighting equipment. Under CHARLES I. SCHNEIDER, as president, facilities of both companies and sales organizations will be maintained and co-ordinated.

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PLASTIMENT*-CONCRETE SATISFIES ALL FOUR BECAUSE

- MIXES BETTER
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*PLASTIMENT is the chemically Retarding Densifier especially developed for concrete work which requires your guarantee. Retards set, densifies mix to provide controlled properties far superior to reference concrete. Designed for use with all types of aggregates and all methods of mixing and placing. PLASTIMENT-Concrete's ease of handling and superior results find ready on-the-job acceptance in every phase of construction. For full details, write or call.

APPROVED: PLASTIMENT and other Sika Products have been tested and approved on Federal, State and Municipal projects, and are approved under Building Codes of principal cities.

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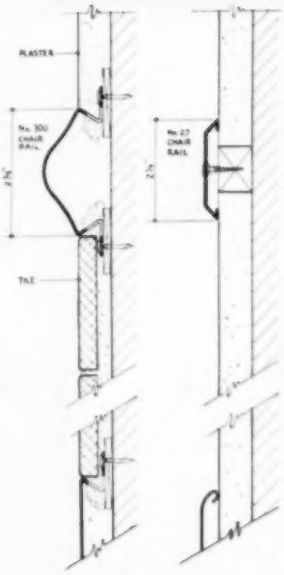

Knapp Metal Chair Rail is designed to protect walls from unsightly marks and scratches resulting from chair backs rubbing against decorated surfaces. It is often used to form the top of a wainscot. Knapp Chair Rail is usually installed before plastering so it can be finished in the wall to provide a neat, easy-to-clean trim. Other types are available to apply after plaster. Keep up-to-date on new Metal Trim methods by reading our "Trim Talks" bulletin regularly. Write today and we will place your name on our mailing list.

Write to Dept. PA-752

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MANUFACTURERS OF QUALITY METAL TRIM SINCE 1905
KNAPP BROTHERS MFG. CO.
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THE REMOTAIRE by AMERICAN-Standard

. . . a new remote type room conditioner for multi-room installations . . .

HEATS IN WINTER . . . COOLS IN SUMMER

● Here's year 'round comfort-conditioning for such multi-room installations as hotels, motels, office buildings, hospitals, apartments and residences.

The Remotaire uses chilled or heated water supplied through a simple piping system from a remotely located central water chiller and heating plant. Designed for location under windows, the Remotaire can be free standing or recessed into the wall 4 inches.

Individual control of each unit allows the occupant to choose the room temperature that suits him best without affecting adjoining spaces.

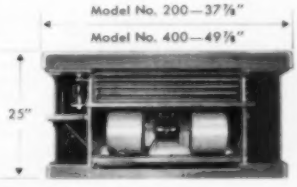
The Remotaire is provided with an arrangement for introducing ventilation air through a wall aperture. However, ventilation air may be supplied by several other methods if desired.

Whether for modernization of an existing building, or in the planning of a new building, put this quality remote type room conditioner to work in the buildings *you* plan. For further information, send for descriptive literature—Form 293.

American Radiator & Standard Sanitary Corporation, Dept. PA-72, Pittsburgh, Pa.

AMERICAN-Standard
HEATING-COOLING

Model No. 200—37⅞"
Model No. 400—49⅞"



THE REMOTAIRE IS SMARTLY STYLED, STURDILY CONSTRUCTED. All surfaces of the heavy-gauge furniture steel cabinet are bonderized and finished with a baked-on gray semi-gloss enamel.

IT'S EASY TO INSTALL . . . in both old and new buildings. Ventilation air can be introduced through a wall aperture or by several other methods if desired. Piping and electrical connections are easily made in spacious end compartments.

IT'S SIMPLE TO OPERATE . . . Individual control of each unit allows the occupant to choose the room temperature that suits him best without affecting adjoining spaces. Room ventilation can be adjusted with the fresh air damper located in each unit.

EASY TO CLEAN AROUND. The cabinet is designed with toe-step offset . . . allows maximum cleanliness of floor (and eliminates unsightly return air grille).

FLEXIBLE INSTALLATION. Coil is designed for either right or left hand connections and can be easily reversed in the field if necessary. Spacious end compartments with removable end panels provide ease of installation and allow more than a 90° horizontal wrench swing.

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SITUATIONS OPEN

DESIGNER WANTED—must have had experience on large commercial, industrial and institutional projects. Real opportunity with large architectural office located in Pacific Northwest. Submit full resume, stating experience, education, age and salary expected. Replies will be held in confidence. Box 433, PROGRESSIVE ARCHITECTURE.

CHIEF DRAFTSMAN—wanted for commercial architects office located in Pacific Northwest. Must be experienced in managing large drafting room. Submit full resume stating experience, education, age and salary requirements. Replies will be held in confidence. Box 434, PROGRESSIVE ARCHITECTURE.

MIDWEST ENGINEERING FIRM—needs architect. Prefer 35 years of age or over, graduate, qualified for registration several states, varied experience. Salary open. Permanent position. Furnish complete qualifications. Central Engineering Corporation, Northern Hotel Building, Williston, North Dakota.

SITUATIONS WANTED

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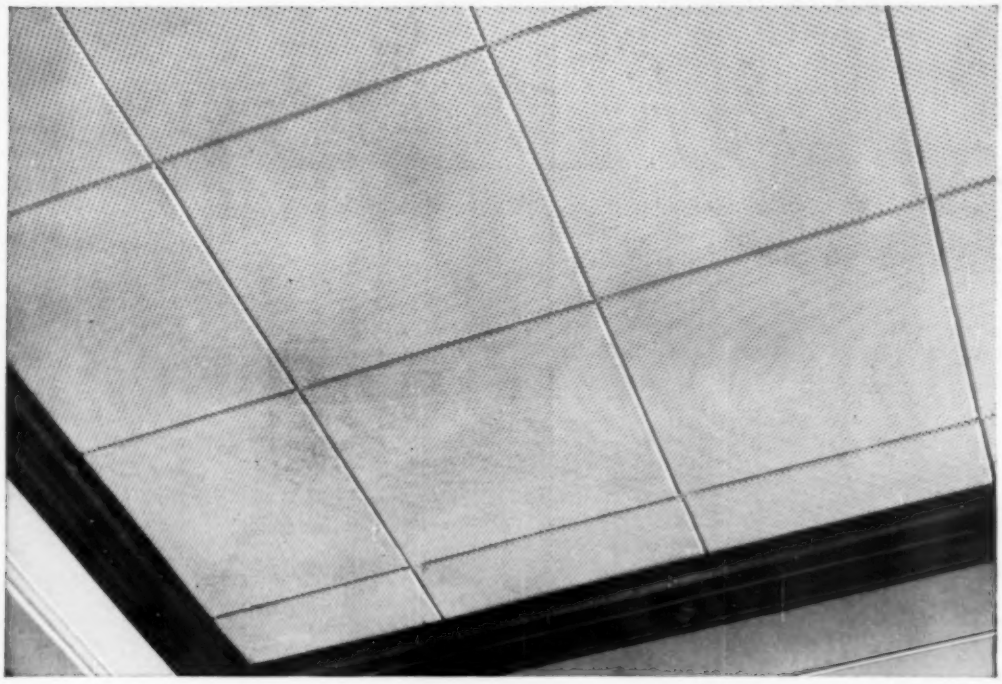

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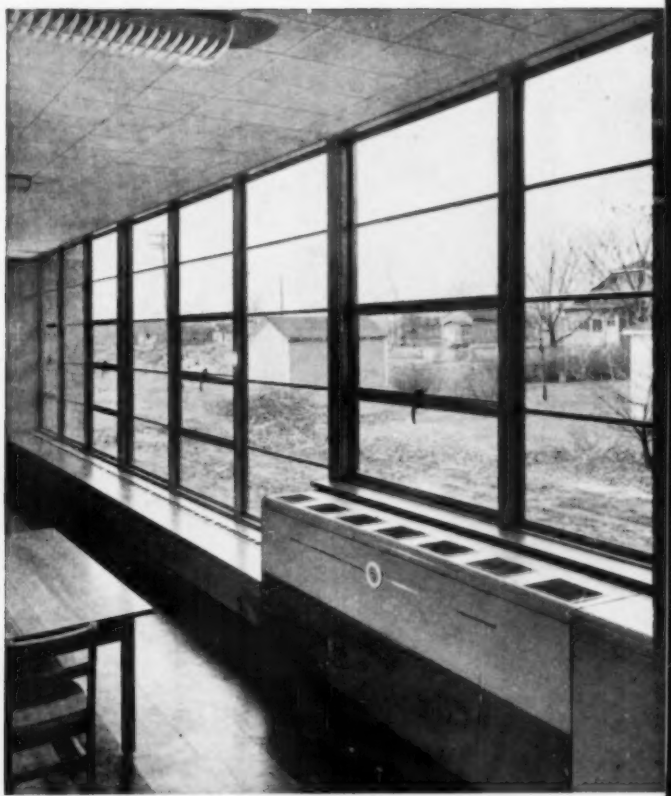
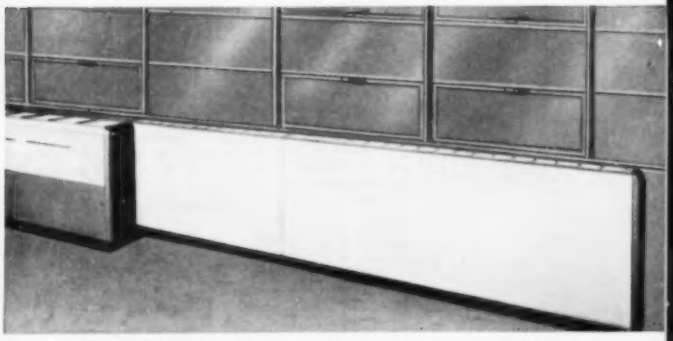
"I could tell you



The modern classroom, above, incorporates an architect's application of DRAFT|STOP when utility cabinets are not required. The adapter grille (a Herman Nelson accessory) has been installed in a wooden window seat to protect against downdrafts from the large window area. The DRAFT|STOP Unit Ventilator is placed in one end of the room and a filler piece completes this unique but practical installation at Home School, Stickney, Illinois. All of the rooms are heated, cooled and ventilated with this up-to-date installation.

Bonne Terre Elementary School; Bonne Terre, Missouri, gives school children deep in the "heart of the Ozark's" a most modern building in which to carry on the learning process. The important physical factors of heating, cooling and ventilating are controlled automatically by the Herman Nelson DRAFT|STOP System. Superintendent of Schools, H. M. Terry; Consulting Engineer, N. Russell Maloney.



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a lot about schoolrooms"...

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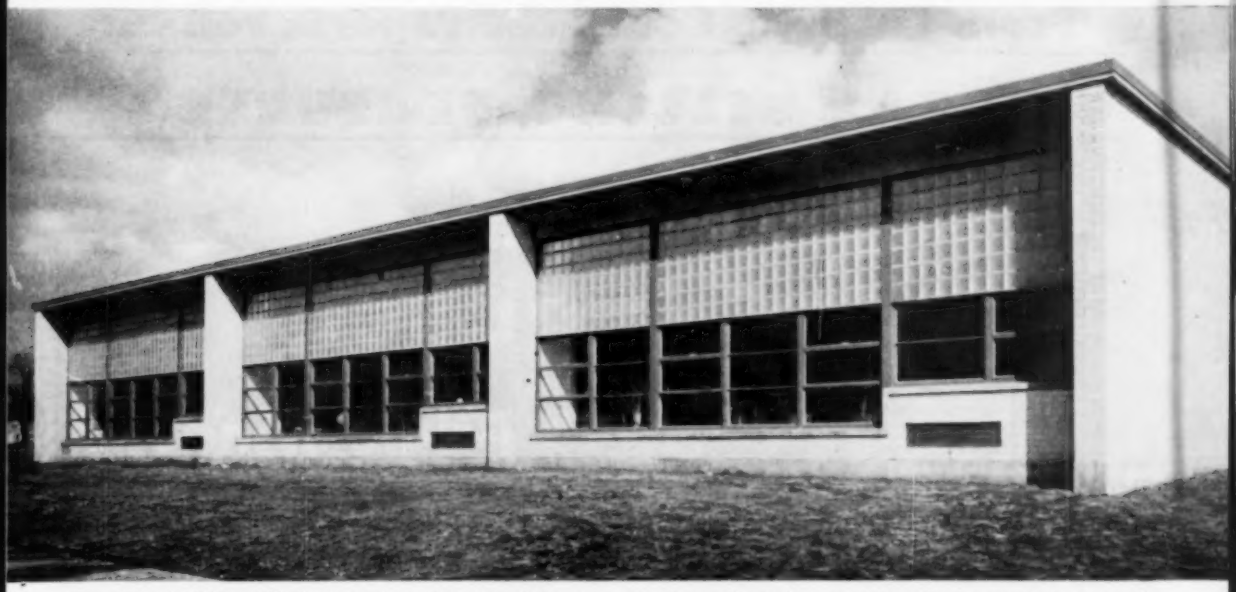

Home School; Stickney, Illinois, is a unique illustration of the use of the DRAFT|STOP System of Unit Ventilation. Unit Ventilators as the intake grilles in the exterior above show, are placed at one end of the classroom as against ordinary practice of centering them on the window wall. After several months of occupancy during the past school year adequately tested this application, results have proved entirely satisfactory—cooling, heating and ventilating, all working in perfect harmony to assure ideal air conditions. Superintendent of Schools, E. D. Aurand; Architect, Louis Balluff.

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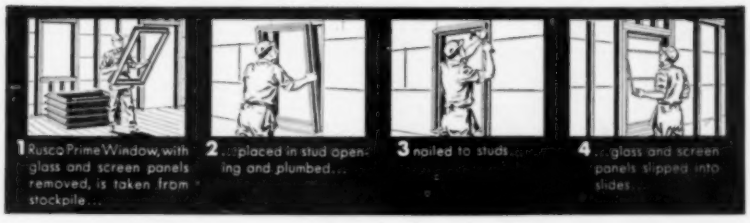

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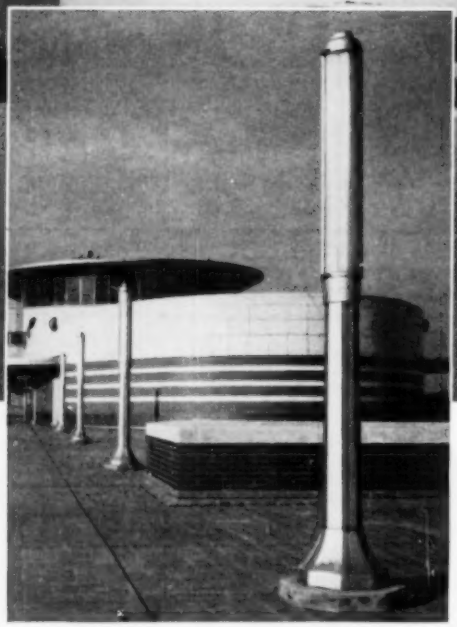
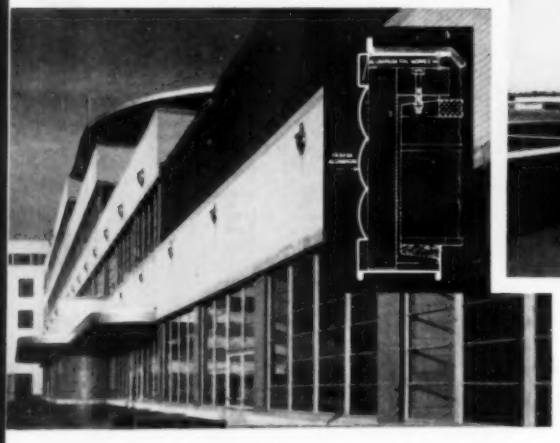
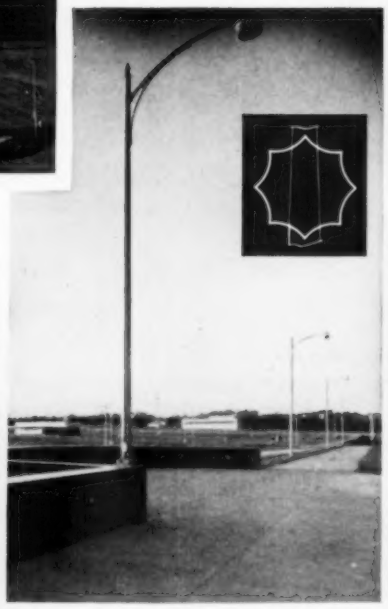


Aluminum luminaires light this public terrace outside the glassed-in main dining room.

Marquee, windows and spotlights employ Alcoa Aluminum at this passenger service entrance.





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Architect: Joseph Hoover
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Sub Contractors, Aluminum:
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A. F. Jarus Iron Works, Arlington, Va.
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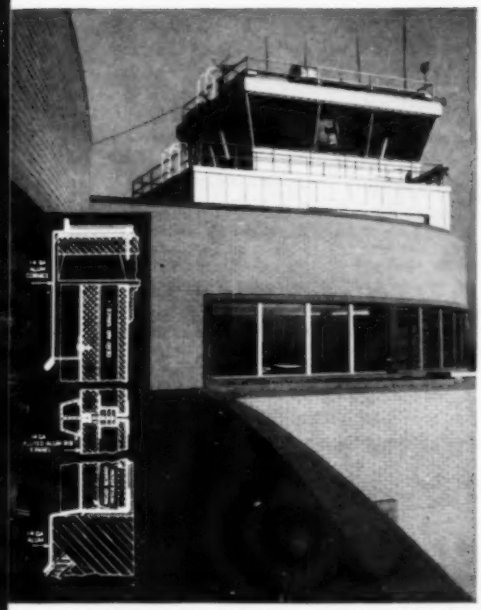

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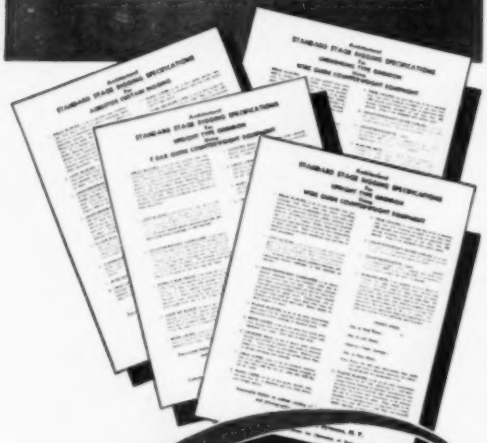

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	.050″—63.00 Pounds	Theoretical Wt. 63.00 Pounds
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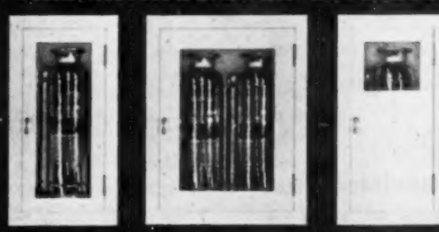

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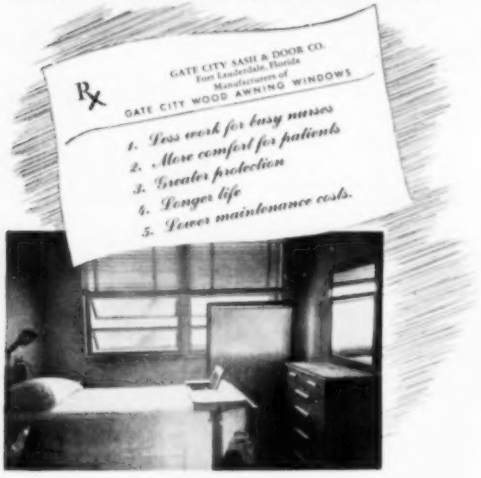

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1932 PAGE TWO

TEMPERATURE CONTROL *Notes*

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SUBJECT: Hoffman Boston Elementary School, Arlington, Virginia.

AUTHORS: Architect, Ronald S. Senseman; Engineer, A. Dee Counts; Heating Contractor, E. J. Febrey & Company — all of Washington, D. C.

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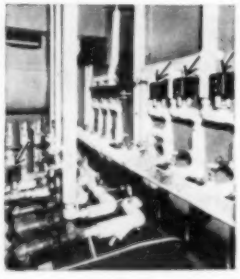

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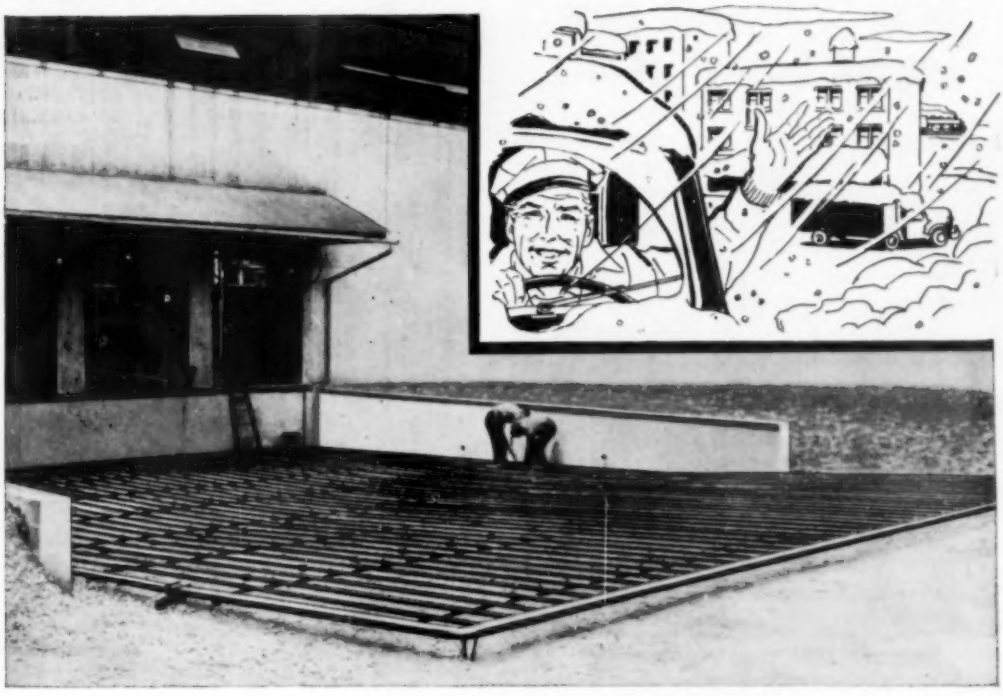

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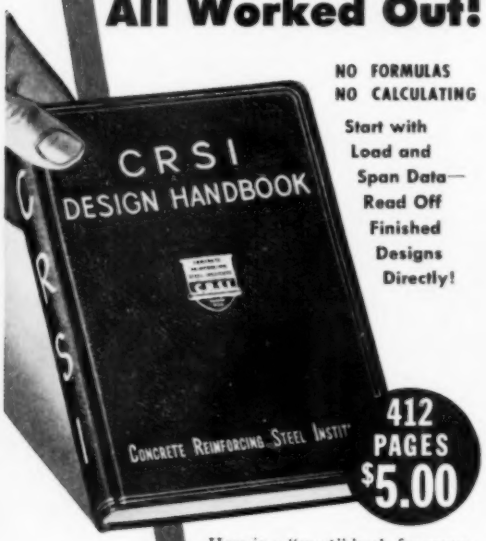

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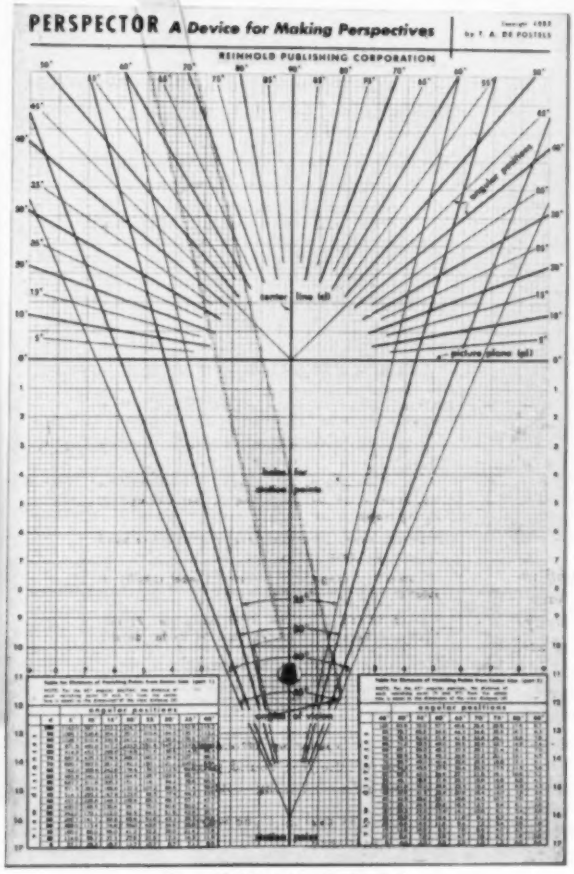

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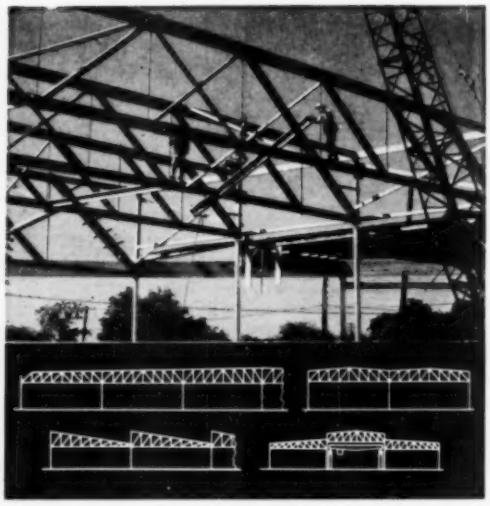

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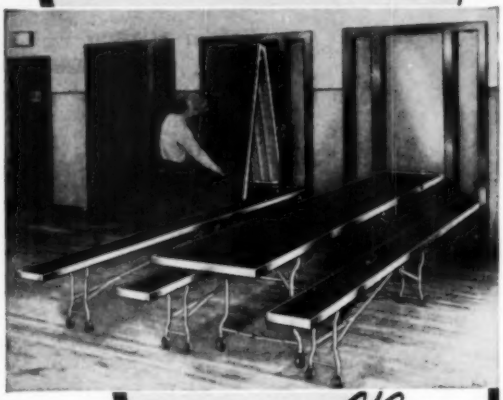

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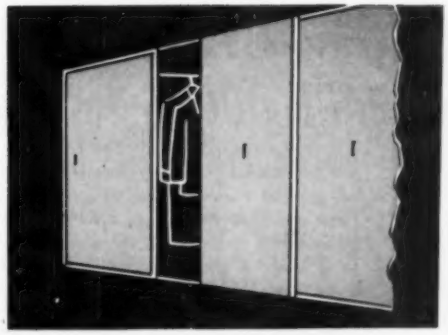

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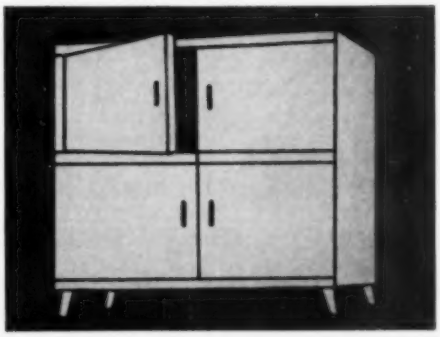

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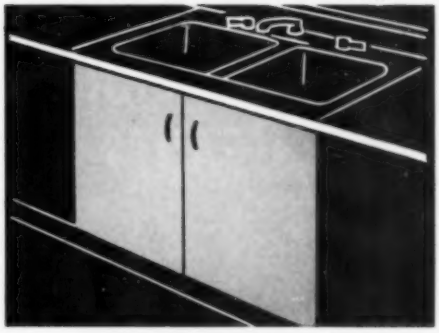

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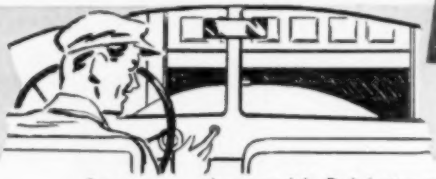

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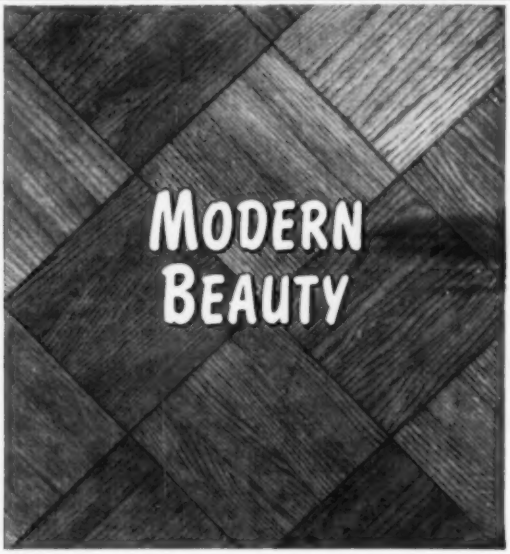

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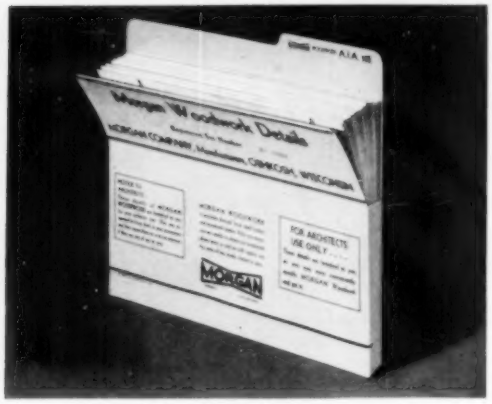

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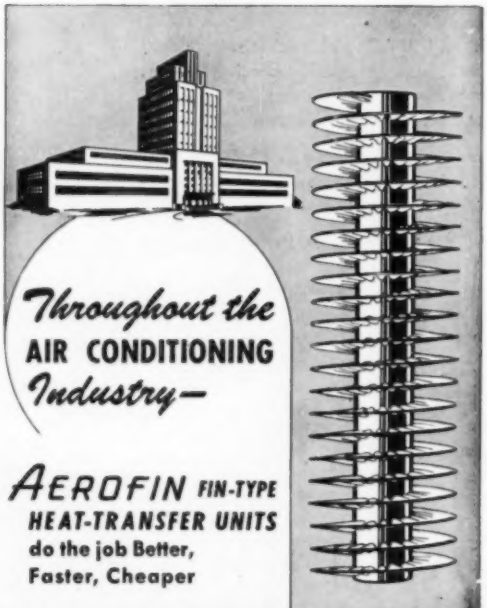

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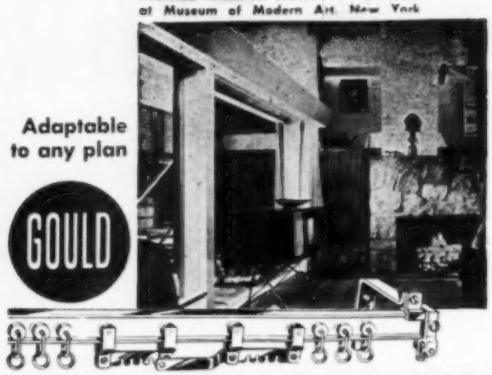

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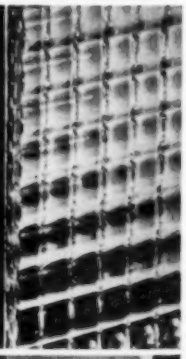

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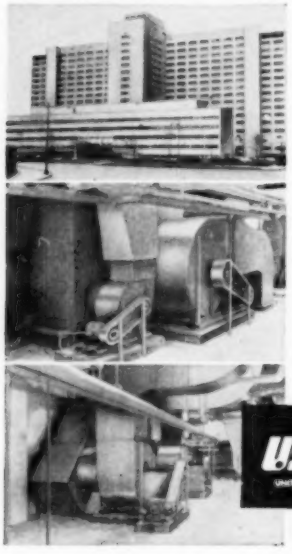

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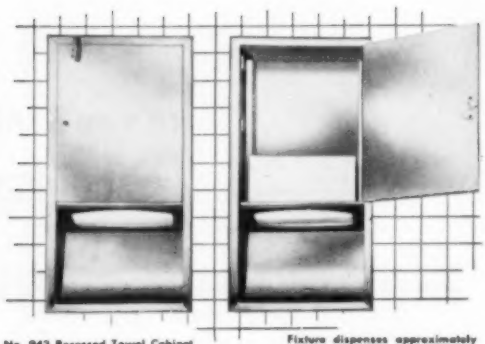

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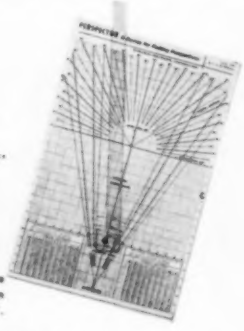

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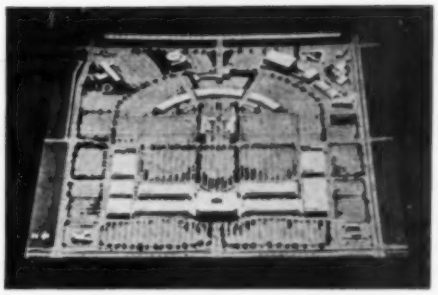

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P.S.

I would like to turn a microscopic eye toward the profession of architecture for a moment, if that is possible after the telescopic visions that have been held before us recently by Walter Gropius, Carl Feiss, and others. These people suggest the stimulating possibility (perhaps the necessity) of bringing the architect again to the status of the master builder, by training and education and changes in the ethics of practice, so that the entire designing and building process could be handled for the client by the one professional individual.

I think these suggestions merit serious study and discussion. Perhaps we should proceed to adopt them without delay, if architecture and engineering are to serve society properly. For myself I want to think more about them before I editorialize. In the meantime, however, I am very much concerned about the fact that the *individual tasks* which are important parts of the presently accepted architectural practice are not being properly taught and trained for.

What about the status of the specification writer today? How about the outside superintendent, and the clerk-of-the-works? What is the position of the office manager in the architect's office? I know a number of people who are, always will be, and never want to be anything but very good draftsmen; what is their position?

I know that almost all students entering upon the study of architecture look forward to being "architects." Design, as such, is the core around which architectural education is planned. And yet I believe two things are true:

1. Only a very small percentage of graduated architectural students is qualified by temperament and ability to have an ultimate private practice;

2. Anyone who sticks with architectural schooling and an architectural career through the many discouragements has some sort of a driving impulse to do so, and need not be discouraged because he will never be a successful "architect."

In other words, I believe specification writers should be trained for that job. Now, all too often they drift to the specification desk as a final resort, after frustrations in other, more glamorous fields. I believe architectural supervisors of construction should be trained for that work, instead of being forced out into it because work is slow in the office. I believe that specialized draftsmen and detailers should be prepared for that career, and should be proud of it, rather than feeling they are marking time until they pass the State Board exams and their Aunt Agnes gives them their first commission.

All of these jobs are necessary to the production of the finished piece of architecture. They are important enough to require special training, so that the people who fill them (in addition to the ones who hold them temporarily on the way to self-practice) should fill them efficiently and properly. I know some specification men who are proud and able—and *in that position* have become recognized, quoted, sought out. But I also know too many who are hacks. I don't know of any school that is training men for that important career.

The same thing is true of many other specialized jobs in the architect's office. They can give personal satisfaction in the day-to-day accomplishment, and personal pride in their relationship to the total end-product. They require good judgment, responsibility, and mature understanding. They shouldn't be filled by people who just happen to drift into them.

At this time of year it has become my custom to bring out for exhibition the best items in the magazine's cheesecake file. The more sober-minded editors on our staff won't use these agency releases on the PRODUCTS pages of the magazine, but I think this branch of advertising art should be recognized and evaluated. After all, products are going to be *used*, aren't they? Why shouldn't we see them in use—even if it is the advertising man's idea of usefulness that is illustrated. My awards this year are as follows:

Most Intriguing: *Alsynite;* a photo demonstrating visibility through translucent, opaque and transparent sheets of that glass fiber building panel. Release for the Alsynite Company of America says, "top section is available throughout the United States; other two will enter production soon."

Most Informative: *The Troyloafer;* adjustable tubular-steel summer furniture. Release from Troy Sunshade Co., of Troy, Ohio, says, "extremely comfortable in both up and down positions."

Most Likely to Succeed: *Nutone* kitchen fan, being removed for cleaning. Nutone, Inc., Cincinnati, Ohio; release says, "new unit comes completely assembled . . . in a compact unit."

Thomas H. Creighton

Pennsylvania State Museum

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(Top Inset) A section of the Revere Copper flat deck and batten seam roof. Revere Copper was also used for flashing. A total of some 30,000 lbs. was used on the project. Roofing and sheet metal contractor was LeRoy Roofing Company, Harrisburg, Pa.

(Bottom Inset) Putting one of the 16 oz., 24" x 96" Revere Copper Cold Rolled Sheets in place on the batten seam section of roof. Note that short lengths were used in accordance with best installation practices as recommended in Revere's Booklet, "Copper and Common Sense." The use of short lengths prevents buckling and cracking which would result should sheets be too long. For the flat seam roofing, 20 oz., 16" x 18" Revere Cold Rolled Copper was used.

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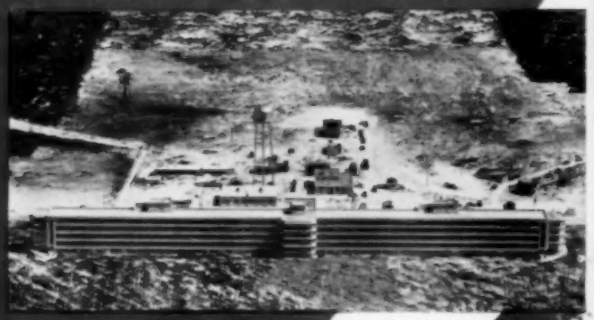

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